Sivil Havacılık Genel Müdürlüğü

TEMEL ASGARİ TEÇHİZAT LİSTESİ (MMEL) İLE ASGARİ TEÇHİZAT LİSTESİ (MEL) TALİMATI

(SHT MMEL/MEL)

BİRİNCİ BÖLÜM
Amaç, Kapsam, Dayanak, Tanımlar ve Kısaltmalar

Amaç

MADDE 1 – (1) Bu Talimatın amacı, SHY-21 Hava Aracı ve İlgili Ürün,Parça ve Cihazın Uçuşa Elverişlilik ve Çevresel Sertifikasyonu Yönetmeliğine uygun olarak oluşturulan verilerde tanımlanan ilgili temel asgari teçhizat listesine (MMEL) dayalı olarak asgari teçhizat listesi (MEL) oluşturulması; eğer operasyonel uygunluk verilerinin (OSD) bir parçası olarak MMEL oluşturulmamış ise işleticinin Devleti ya da tescil olunan Devlet tarafından kabul edilen ilgili MMEL esas alınarak hazırlanan MEL' in Genel Müdürlüğe onaylatılması ve kullanılmasına ilişkin usul ve esasları belirlemektir.

Kapsam

MADDE 2 – (1) Bu Talimat; onaylı üretim kuruluşları ile 16/11/2013 tarih ve 28823 sayılı Resmi Gazetede yayınlanan Ticari Hava Taşıma İşletmeleri Yönetmeliği (SHY-6A) kapsamında ruhsatlandırılan işletmeleri kapsar. Ayrıca 14/05/2013 tarih ve 28647 sayılı Resmi Gazetede yayınlanan Genel Havacılık Yönetmeliği (SHY-6B) kapsamında ruhsatlandırılmış işletmelerin yanlızca kompleks hava araçlarını kapsar.

Dayanak

MADDE 3 – (1) Bu Talimat, 14/10/1983 tarih ve 2920 sayılı Türk Sivil Havacılık Kanunu, 10/11/2005 tarih ve 5431 sayılı Sivil Havacılık Genel Müdürlüğü Teşkilat ve Görevleri Hakkında Kanuna dayanılarak hazırlanmıştır.

(2) Bu Talimat hazırlanırken Avrupa Komisyonu tarafından yayımlanan 95/2012 sayılı uluslararası regülasyon ile konu hakkında Avrupa Havacılık Emniyet Ajansı (EASA) tarafından yayımlanan rehber dokümanlarda belirtilen gereklilikler esas alınmıştır.

Tanımlar ve kısaltmalar

MADDE 4 – (1) Bu Talimat kapsamındaki amaç doğrultusunda aşağıdaki tanımlar geçerli olacaktır:

a) AFM: Hava Aracı Uçuş El Kitabını(Aircraft Flight Manual),
b) ATA: Hava Taşımacılığı Birliğini(Air Transport Association),
c) Başvuru sahibi: Bir tip sertifikası, değişiklik onayı veya ek tip sertifikası almak için başvuruda bulunan veya bu sertifikalara sahip olan ve MMEL' e ilişkin OSD'nin Avrupa Havacılık Emniyeti Ajansı tarafından onaylanması için başvuruda bulunan kişiyi,
d) CAME: Sürekli Uçuşa Elverişlilik Yönetimi Organizasyon El Kitabını(Continued Airworthiness Management Organisation Manual),
e) CS: Sertifikasyon Şartnamesi(Certification Specification) 216/2008 sayılı EASA Regülasyonu ile bunun Uygulama Kurallarına uyumluluğu sağlayacak yöntemlerin

belirtildiği ve bir kuruluş tarafından sertifikalandırma maksadıyla kullanılabilecek EASA tarafından benimsenmiş teknik standartları,

f) EASA: Avrupa Havacılık Emniyet Ajansını(Eurepean Aviation Safety Agency),
g) ETOPS: Çift Motorlu Uçaklarla Gerçekleştirilen Uzatılmış Menzil Operasyonlarını (Extended-range Twin-engine Operation Performance Standards),
h) Gayri faal: Kendisinden beklenen amacı gerçekleştiremeyen ya da onaylanan işletim limitleri veya toleransları dâhilinde tutarlı bir çalışma sergilemeyen bir parçayı,
i) Genel Müdür: Sivil Havacılık Genel Müdürünü,
j) Harici Olay: İncelenen hava aracı veya sistemden farklı bir kaynağa sahip bir olayı; örneğin atmosfer koşulları (ani rüzgâr/rüzgâr değişimi, sıcaklık değişimleri, buzlanma, yıldırım çarpması), işletim ortamı (pist koşulları, iletişim koşulları, seyrüsefer ve gözetim hizmetleri), kabin ve bagaj yangınları ve kuş çarpmasını.
k) İşletici: 14/10/1983 tarihli ve 2920 sayılı Türk Sivil Havacılık Kanunu ve 10/11/2005 tarihli ve 5431 sayılı Sivil Havacılık Genel Müdürlüğü Teşkilat ve Görevleri Hakkında Kanuna istinaden işletme ruhsatı alan işletmeleri,
l) Katastrofik Arıza Durumu: İlgili Tip Sertifikasyonu Temelinde tanımlanan durumu.
m) Keşif günü: Bir arızanın hava aracı bakım kaydına/kayıt defterine işlendiği takvim gününü,
n) Kompleks Motorlu Hava Aracı:

Bir uçak için;

Sertifikalanmış azami kalkış ağırlığı 5700 kg aşıyorsa veya,
Sertifikalanmış azami yolcu koltuk sayısı 19’ dan fazlaysa veya,
En az iki pilotla operasyona sertifika edilmişse veya,
En az bir turbojet motor veya birden fazla turboprop motor bulunduruyorsa

Bir helikopter için.

Sertifikalanmış azami kalkış ağırlığı 3175 kg aşıyorsa veya,
Sertifikalanmış azami yolcu koltuk sayısı 9’ dan fazlaysa veya,
En az iki pilotla operasyona sertifika edilmişse

kompleks motorlu hava aracını,

o) LSA: Hafif Spor Uçağı (Light Sport Aeroplane),
p) LVO: Düşük görüş operasyonlarını (Lov Visibility Operations),
q) MEL: Asgari Techizat Listesi(Minimum Equipment List) uçuş esnasında geçici olarak gayri faal olabilecek ekipmanı belirli koşullara bağlı olarak listeleyen ve MMEL temel alınarak hazırlanan bir dökümanı.
r) MMEL: Temel Asgari Teçhizat Listesi(Master Minimum Equipment List) özel işletim koşullarına, kısıtlamalara ya da prosedürlere bağlı olarak belirli bir uçak tipinde veya modelinde geçici olarak gayri faal olabilecek parçaları listeleyen bir dokümanı.
s) OEB: Operasyon Değerlendirme Kurullarını (Operations Evaluation Boards),
t) OM: İşletici El Kitabını (Operator Manual),
u) OSD: Operasyonel Uygunluk Verisi(Operational Suitibility Data) EASA tarafından emniyetli operasyonun sağlanması için helikopter ve uçak üreticilerine verilen bir uygunluktur. OSD pilot eğitimleri, bakım personeli ve simülatör yeterliliği, MMEL ve hava aracı sistemlerine bağlı diğer alanları kapsar.
v) Parça: Bir eleman, alet, ekipman, sistem veya fonksiyonu,
w) RI: Onarım Süresi (Rectification Interval) Gayri faal parçayla yapılan operasyonların süresine ilişkin kısıtlamayı,
x) RIE: Onarım süresinin uzatılmasını(Rectification Interval Extension),

y) RVSM: Azaltılmış dikey ayırma minimumlarında operasyonu(Reduced Veritical Speed Minima),
z) Servis Bülteni: Üreticinin parça hakkındaki değişikliği bildirmek üzere hava aracı işleticine yaptığı bilgilendirmeyi,
aa) Son Kullanıcı: EASA tarafından onaylanan MMEL'e göre hazırlanan bir Asgari Techizat Listesine (MEL) sahip bir işletici veya eğitim kuruluşunu,
bb) Takvim Günü: İşletmecinin tercihine bağlı olarak Evrensel Koordineli Zaman'a (UTC) veya yerel saate göre gece yarısından bir sonraki gece yarısına kadar olan 24 saatlik zaman dilimini,
cc) Tehlikeli Arıza Durumu: İlgili Tip Sertifikasyonu Temelinde tanımlanan durumu
dd) TLD: Zaman Sınırlı Dispeci(Time Limited Dispatch),
ee) Uçuş Günü: İşleticinin tercihine bağlı olarak seçilen UTC'ye veya yerel saate göre ilgili hava aracının en az bir uçuşundan sonra başlayan, gece yarısından bir sonraki gece yarısına kadar olan 24 saatlik zaman dilimini,
ff) VLA: Çok Hafif Uçağı(Very Light Aeroplane)

ifade eder.

İKİNCİ BÖLÜM

Genel Hususlar, Uygulama Esasları ve Son Hükümler

MEL revizyonu ve onayı

MADDE 5 – (1) MEL ve MEL'de yapılacak herhangi bir değişiklik, Genel Müdürlük tarafından onaylanacaktır.

(2) İşletici, kabul edilebilir bir zaman zarfında MMEL'de yapılan herhangi bir uygulanabilir değişikliğin ardından MEL'i revize edecektir.

(3) SHY-6B yönetmeliği kapsamında ruhsatlandırılmış işletmeler, kompleks olmayan hava araçları için oluşturdukları veya değişiklik yaptıkları MEL'i Genel Müdürlüğe bildirmeleri gerekmektedir.

MEL geçici revizyonu

MADDE 6 – (1) İşletme filosuna **mevcut tipte bir hava aracı eklenmesi durumunda** aşağıda yer alan koşulların sağlanması kaydıyla işletmelere geçici revizyon yetkisi verilmiş olup hazırlanan MEL dokümanının Genel Müdürlüğümüze onaya sunulmasına gerek kalmayacaktır:

(a) Filoya dahil edilecek hava aracı ile ilgili asgari teçhizat listesinin 2 numaralı "Repair Category", 3 numaralı "Number Installed" ve 4 numaralı "Number Required for Dispatch" kısmında mevcut onaylı MEL'de belirtilen gerekliliklerden farklı bir gereklilik bulunmaması,
(b) Filoya dahil edilecek hava aracı ile ilgili asgari teçhizat listesinin 5 numaralı "Remarks and exceptions" kısmında mevcut onaylı MEL'de belirtilen gerekliliklerden farklı bir gereklilik bulunmaması,

(c) Filoya dahil edilecek hava aracı ile ilgili asgari teçhizat listesinde, mevcut onaylı MEL'de belirtilen operasyonel ve bakım prosedürlerinden farklı bir gereklilik bulunmaması,
(d) Filoya dahil edilecek hava aracının mevcut onaylı MEL'de belirtilmesi gereken ve mevcut tipteki hava araçlarına verilmemiş bir özel yetki talep edilmemesi durumunda,
(e) Filoya dahil edilecek hava aracının, üretici tarafından yayınlanmış servis bülten durumuna göre ve (a),(b),(c) ve(d) maddelerini sağlamak koşuluyla, parçaların hava aracına etkin olup olmadığının belirtilmesi gereken durumlarda.

MEL içeriği
MADDE 7 – (1) İçerik listesine ek olarak, MEL'de şunlar da yer alacaktır:
(a) MEL'i kullanan uçuş ekipleri ve bakım personeli için kılavuzluk eden ve tanımları sunan bir önsöz;

(b) MEL'in dayalı olduğu MMEL'in revizyon durumu ve MEL'in revizyon durumu;

(c) MEL'in kapsamı, boyutu ve amacı.

İşletici
MADDE 8 – (1) İşletici, MEL içerisinde yer alan her bir gayri faal alet, teçhizat parçası veya işlevi için onarım süresi belirleyecektir. MEL'deki onarım süresi, MMEL'deki ilgili onarım süresinden daha az kısıtlayıcı olmayacaktır.
(2) İşletici, etkin bir onarım programı oluşturacak;

(3) İşletici, MEL'de belirtilen onarım süresi sona erdikten sonra hava aracı sadece aşağıdaki durumlarda işletecektir:

(a) Arıza düzeltildiğinde; ya da

(b) Onarım süresi (f) maddesine uygun bir şekilde uzatılmış olduğunda.

Onarım süresinin uzatılması
MADDE 9 – (1) Genel Müdürlüğün onayına tabi olarak, işletici, aşağıdaki şartların karşılanması kaydıyla, B, C ve D onarım sürelerinin bir kez uzatılmasına yönelik prosedürden yararlanabilecektir:
(a) Onarım süresi uzatımının hava aracı tipine yönelik MMEL'in kapsamında olması;

(b) Onarım süresi uzatımının azami olarak MEL içerisinde belirtilen onarım süresi kadar olması;

(c) Onarım süresi uzatımının MEL maddeleri onarımının gerçekleştirilmesi için normal bir yöntem olarak kullanılmaması ve yalnızca işleticinin kontrolü dışındaki faaliyetlerin söz konusu onarımı imkansız kılması durumunda kullanılması;

(d) İşletici tarafından uzatımların kontrol edilmesine ilişkin belirli görev ve sorumluluklara ilişkin bir tanımlama oluşturulması;

(e) Genel Müdürlüğe geçerli onarım süresinde yapılan herhangi bir uzatımın bildirilmesi; ve

(f) Onarımın ilk fırsatta yapılmasını sağlayacak bir plan oluşturulması.

Operasyon ve bakım prosedürleri

MADDE 10 – (1) İşletici, MMEL içerisinde atıfta bulunulan operasyonel ve bakım prosedürlerini dikkate alarak MEL içerisinde atıfta bulunarak operasyonel ve bakım prosedürleri oluşturacaktır. Bu prosedürler, işletici el kitaplarının ya da MEL'in bir parçası olacaktır.

(2) İşletici, MMEL içerisinde atıfta bulunulan operasyonel ve bakım prosedürlerinde yapılan herhangi bir uygulanabilir değişiklikten sonra MEL içerisinde atıfta bulunulan operasyonel ve bakım prosedürlerini de revize edecektir.

(3) İşletici, MEL'de aksi belirtilmedikçe, aşağıda belirtilenleri tamamlayacaktır:

(a) Listelenmiş gayri faal parça için planlama yapılırken ve/veya bununla operasyon gerçekleştirirken MEL'de atıfta bulunulan operasyonel prosedürleri; ve

(b) Listelenmiş gayri faal parça ile operasyona başlamadan önce MEL'de atıfta bulunulan bakım prosedürleri.

MEL kısıtlamaları dışında ancak MMEL'in kısıtlamaları kapsamında olan gayri faal aletlerin kullanılması

MADDE 11 – (1) İşletici, Genel Müdürlüğün olay bazlı özel onayına tabi olarak, aşağıdaki şartların karşılanması kaydıyla, MEL kısıtlamaları dışında ancak MMEL'in kısıtlamaları kapsamında olan gayri faal aletler, teçhizat parçaları ya da işlevleri ile hava aracını işletebilir:

a) İlgili aletlerin, teçhizat parçalarının veya işlevlerinin (a) maddesinde tanımlandığı şekilde MMEL'in kapsamı dahilinde olması;

(b) Onayın, onaylanmış MEL'in kısıtlamaları dışında operasyonların gerçekleştirilmesi için normal bir yöntem olarak kullanılmaması ve yalnızca işleticinin kontrolü dışındaki faaliyetlerin MEL'e uygunluğu imkânsız kılması durumunda kullanılması kaydıyla;

(c) İşletici tarafından bu onaya göre hava aracı işletilmesinin kontrol edilmesi ile ilgili özel görevler ve sorumluluklara ilişkin bir tanımlama oluşturulması;

(d) Gayri faal aletlerin, teçhizat parçalarının veya işlevlerinin onarılması ya da hava aracının ilk fırsatta MEL kısıtlamalarına göre faal duruma getirilmesine yönelik bir plan oluşturulması.

Yürürlükten kaldırılan mevzuat

MADDE 12 – (1) 12/10/2011 tarihli 01 revizyon numaralı Temel Asgari Techizat Listesi (MMEL) ile Asgari Techizat Listesi (MEL) Hazırlanması ve Onaylanmasına İlişkin Usul ve Esaslar Talimatı yürürlükten kaldırılmıştır.

Yürürlük

MADDE 13 – (1) Bu Talimat, yayımlandığı tarihte yürürlüğe girer.

Yürütme

MADDE 14 – (1) Bu Talimat hükümlerini Genel Müdür yürütür.

ASGARİ TECHİZAT LİSTESİNİN HAZIRLANMASI VE ONAYLATILMASI
GM1 ORO.MLR.105(a) GENEL
(a) MEL uçuş esnasında geçici olarak gayri faal olabilecek ekipmanı belirli koşullara bağlı olarak listeleyen bir belgedir. Bu belge, işletmeci tarafından sahip oldukları hava aracının konfigürasyonu ve işletim ortamı, rota yapısı, coğrafi konum, yedek parçalar ile bakım imkânlarının mevcut olduğu hava meydanları, vs. gibi MMEL düzeyinde ele alınabilecek tüm bu bireysel değişkenleri dikkate alarak, Genel Müdürlük tarafından onaylanan bir prosedüre uygun bir şekilde, kendi özel hava araçları için hazırlanır.
(b) OSD' nin zorunlu bölümünde tanımlanan MMEL, CS-MMEL ya da CS-GEN-MMEL'e uygun bir şekilde oluşturulur. Diğer Sertifikasyon Şartnamelerin yanı sıra CS-MMEL ve CS-GEN MMEL, özellikle operasyonel gerekliliği bulunan parçalar için MMEL' leri standart hale getirmeyi amaçlayan rehberi içermektedir. Eğer OSD' si olan bir MMEL bulunmuyorsa ve operasyonel gerekliliği bulunan parçalar mevcut MMEL içerisinde özel muafiyet veya dispeç koşulları olmaksızın sadece operasyonel gerekliliklere atıfta bulunularak yer alıyorsa, işletmeci uygun olması halinde söz konusu bu parçalar için MEL' i oluşturmak amacıyla CS-MMEL ya da CS-GEN-MMEL'i kullanabilir.
EMNİYET DIŞI EKİPMAN
(c) Çoğu hava aracı, uçuşa elverişlilik gerekliliklerini yeteri düzeyde karşılaması için, ekipman fazlalığı ile tasarlanmakta ve tescillenmektedir. Genellikle hava araçlarına yanlızca bazı operasyon şartlarında kullanılması gereken ekipmanlar takılmaktadır, örneğin gündüz VMC durumunda aydınlatma cihazı kullanımı.
(d) Uçuşa elverişlilik ile ilgili olan, emniyetli bir operasyon için gerekli olan veya listede bulunmayan tüm parçaların otomatik olarak faal durumda olması gerekir.
(e) Eğlence sistemleri ya da mutfak ekipmanı gibi ekipmanlar yolcuları rahat ettirmek için kurulabilmektedir. Söz konusu emniyeti doğrudan etkilemeyen bu ekipman, gayri faal olduğunda uçuşa elverişliliği ya da hava aracı operasyonunu etkilemezse, onarım süresine gerek yoktur. Ayrıca MMEL içerisinde bu emniyet dışı ekipman belirtilmemişse işletmecinin MEL'i içerisinde listelenmesine de gerek yoktur. Buna ilişki istisnalar şunlardır: (1) Kabin emniyeti brifingleri için kullanılan film ekipmanı gibi ikinci bir işlevi yerine getiren ve emniyeti doğrudan etkilemeyen bir ekipman olduğu durumlarda , işleticiler ekipman arızası ihtimaline karşılık operasyonel olası arıza prosedürleri oluşturup bunları MEL içerisine dâhil etmelidir. (2) Emniyeti doğrudan etkilemeyen ekipman, elektrik sistemi gibi başka bir hava

aracı sisteminin parçası olduğu durumlarda, arıza durumunda devre dışı bırakma ve emniyete alma prosedürleri oluşturulup bunlar MEL içerisine dâhil edilmelidir. Böyle durumlarda parça mümkünse telafi edici hüküm ve devre dışı bırakma talimatları ile birlikte MEL içerisine alınmalıdır. Onarım süresi, parçanın ikincil işlevine ve diğer sistemler üzerinde etkisinin boyutuna bağlı olacaktır.

(f) Eğer işletmeci MMEL' de listelenmeyen ve emniyeti doğrudan etkilemeyen bir ekipmanı MEL içerisine dâhil etmek isterse, bir onarım süresi kategorisi de dâhil etmelidir. Uygulanabilir bir (M) prosedürü (elektrikle beslenen parçalar olması halinde) olduğu durumlarda, bu parçalara 'D' kategorisi onarım süresi verilebilir.

(g) İşletmeciler, listede yer almayan arızalar için, uçuşa elverişlilikle ilgili ve emniyetli operasyon için gerekli olup olmadığını saptayarak etkin bir karar alma süreci belirlemelidir. Takılı gayri faal ekipmanın emniyeti doğrudan etkilemeyen ekipman olarak kabul edilmesi için aşağıdaki kriterlerin dikkate alınması gerekir:

(1) Hava aracı operasyonuna, yer personeli ile ilgili standart operasyon prosedürlerini ve uçuş ekibini engelleyecek şekilde, olumsuz bir etkisinin olmaması;

(2) Hava aracı durumunun, yolcuların ve/veya personelin güvenliğini tehlikeye atacak olumsuz bir etkisinin olmaması;

(3) Hava aracı durumunun, yolcuların/personelin yaralanmasına ve/veya hava aracının hasar görmesine neden olabilecek arıza olasılığını en aza indirecek şekilde yapılandırılması;

(4) Oluşan durumun acil durum teçhizatı kullanımını gerektirmemesi ve acil durum prosedürlerini personel tarafından uygulanamayacak derecede etkilememesi.

AMC1 ORO.MLR.105(c) MMEL'DE MÜTEAKİP DEĞİŞİKLİĞE GÖRE MEL'DE YAPILAN DÜZELTME GEÇERLİ DEĞİŞİKLİKLER VE KABUL EDİLEBİLİR ZAMAN DİLİMLERİ

(a) MMEL'de aşağıdaki geçerli değişiklikler MEL'de düzeltme gerektirir:

(1) Onarım süresinin kısaltılması;

(2) Parça değişikliğinde, değişikliğin yalnızca hava aracı veya operasyon türü için geçerli olduğu ve daha kısıtlayıcı olduğu durumlarda.

(b) Değişiklik yapılan MEL'in Genel Müdürlüğe sunulması için kabul edilebilir zaman dilimi, değişiklikten sonra onaylı MMEL' de belirtilen yürürlük tarihinden itibaren 90 gündür.

(c) EASA' nın ve/veya Genel Müdürlüğün gerekli görmesi halinde, emniyet ile ilgili değişikliklerin uygulanmasında zaman diliminin azaltılması gerekli olabilir.

AMC1 ORO.MLR.105(d) MEL FORMATI

(a) MEL formatı ve parçaların gösterilmesi ve dispeç koşulları, MMEL'deki durumlarını yansıtmalıdır.

(b) MEL parçaları için ATA 100/2200 numaralandırma sistemi tercih edilmelidir.

(c) Diğer formatlar ve parça numaralarında sistemleri anlaşılır ve tam olması kaydıyla kullanılabilir.

AMC1 ORO.MLR.105(d)(1) MEL ÖNSÖZÜ

MEL önsözü:

(a) MEL'in kapsamı ve boyutuna uygun olarak MMEL önsözündeki içeriği yansıtmalı;

(b) MEL içerisinde kullanılan terimleri ve tanımları içermeli;

(c) MMEL içerisinde sunulmayan MEL kapsamı ile kullanımına ilişkin diğer ilgili her türlü bilgiyi içermeli;

(d) MEL'in uygun şekilde uygulanması için gerekli olduğu ölçüde bir arızanın veya kusurun kaynağının nasıl saptanacağına dair rehberlik sunmalı;

(e) MMEL içerisinde yer alan kılavuzu esas alan, çoklu hizmet verememe yönetimine dair bir rehber içermeli ve

(f) Söz konusu olduğunda, ekipmanın durumu hakkında uçuş ekibini bilgilendirmek için, gayri faal parçaların etiketlenmesine dair bir kılavuz içermelidir. Özellikle, kumandalar ve göstergeler gibi ekibin ulaşabileceği yerde bulunan söz konusu gayri faal parçalar açık bir şekilde etiketlenmelidir.

AMC1 ORO.MLR.105(d)(2) MEL'İN KAPSAMI

MEL şunları içermelidir:

(a) SHT-OPS talimatı EK-5(Bölüm SPA)'e uygun bir şekilde işleticinin sahip olduğu özel yetkiler kapsamında gerçekleştirilen uçuşlarla ilgili dispeç koşulları.

(b) ORO.AOC.125'ye uygun bir şekilde işletmeci tarafından gerçekleştirilen belli operasyon türlerine özgü hüküm.

AMC2 ORO.MLR.105(d)(3) MEL'İN BOYUTU

İşletmeci, MEL'e uçuşun başlangıcı ile kalkışın başlangıcı arasında meydana gelen arızalarla nasıl başa çıkılacağına dair kılavuz bilgileri dâhil etmelidir. Eğer uçuşun başlangıcı ile kalkışın başlangıcı arasında bir arıza meydana gelirse, uçuşa devam etme kararı pilot muhakemesi ve havacılık tecrübesine dayanılarak alınmalıdır. Sorumlu pilot/kaptan, uçuşa devam etme kararı alınmadan önce MEL'e başvurabilir.

GM1 ORO.MLR.105(d)(3) MEL'İN KAPSAMI

(a) SHT-OPS talimatı EK-5(Bölüm SPA)'e uygun özel onay örnekleri şunlar olabilir:

(1) RVSM,

(2) ETOPS,

(3) LVO.

(b) SHT-OPS EK-3(BÖLÜM ORO) içerisindeki ORO.AOC.125'ye uygun bir şekilde işletmeci

tarafından gerçekleştirilen operasyon örnekleri şunlar olabilir:
(1) Ekip eğitimi,
(2) Konumlama uçuşları,
(3) Gösteri uçuşları.

(c) Bir hava aracına, gerçekleştirilen operasyonlar için gerekli olmayan ekipman kurulduğunda, işletmeci belirsiz bir süre boyunca bu parçalara yönelik onarım işlemini ertelemek isteyebilir. Bu durumlar MEL'in kapsamı dışında kabul edilmektedir ki bu yüzden hava aracı modifikasyonu uygundur ve parçanın; devre dışı bırakılması, engellenmesi ya da kaldırılması uygun bir onaylı modifikasyon prosedürü ile gerçekleştirilmelidir.

GM2 ORO.MLR.105(d)(3) MEL'İN AMACI

MEL gayri faal ekipmana sahip bir hava aracının emniyetli bir şekilde işletilmesi için gereken asgari ekipman ve koşulları belirleyen bir kolaylık belgesidir. Yine de amacı gayri faal ekipman ile hava aracı operasyonuna teşvik etmek değildir. Hava aracının gayri faal ekipman ile dispeç edilmesi, istenen bir durum değildir ve bu tür operasyonlara, geçerli uçuş elverişlilik içinde ve operasyonel gerekliliklerin sağlanması kaydıyla, kabul edilebilir düzeyde emniyetin sağlandığına dair her bir parçaya yapılan dikkatli analiz neticesinde izin verilir. Bu durumda bir hava aracının aralıksız operasyonu en aza indirilmelidir.

GM1 ORO.MLR.105(e);(f) ONARIM SÜRESİ (RI)

Onarım süresine ilişkin tanımlar ve kategoriler CS-MMEL içerisinde verilmiştir.

AMC1 ORO.MLR.105(f) ONARIM SÜRESİNİN UZATILMASI (RIE) – GENEL MÜDÜRLÜĞÜN ONAYINA YÖNELİK İŞLETİCİ PROSEDÜRLERİ VE GENEL MÜDÜRLÜĞE BİLDİRİM

(a) Onarım süresinin uzatılmasına ve uyumluluğu sağlayacak aralıksız gözetime değinen işletİci prosedürleri, işletİcinin RIE prosedürlerinin kontrolünden sorumlu personelin adı, pozisyonu ve RIE'lerin kullanımını kontrol etmek için tespit edilen özel görevlere ve sorumluluklara ilişkin ayrıntıları Genel Müdürlüğe sunmalıdır.

(b) RIE için yetkilendirilen personel, görevlerini yerine getirmelerini sağlayacak teknik ve/veya operasyonel disiplin bakımından yeterli eğitimi almış olmalıdır. Uçuş ekibi ve bakım personeli tarafından kolaylık belgesi MEL'in operasyonel kullanımı bakımından gerekli mühendislik yetkinliğine ve operasyonel bilgiye sahip olmalıdırlar. Yetkili personel, görevlerine ve ismine göre listelenmelidir.

(c) İşletİci, geçerli onarım süresinin uzatıldığı tarihten itibaren 1 ay içerisinde ya da RIE'ye yönelik onaylı prosedür içerisinde belirtilen söz konusu zaman dilimi içerisinde Genel Müdürlüğü bilgilendirmelidir.

(d) Bildirim, Genel Müdürlüğün belirlediği form kullanılarak yapılmalı ve bildirimde; arızanın kaynağı, bu tür tüm kullanımları, RIE sebebini ve düzeltmenin neden asıl onarım süresi içerisinde gerçekleştirilmediği belirtilmelidir.

GM1 ORO. MLR.105(f) ONARIM SÜRESİNİN UZATILMASI (RIE)
RIE'ye yönelik prosedürler, işletmecinin belirtilen onarım süresine uyamadığı, imalatçı tarafından sağlanması gereken parçaların olmaması ya da diğer öngörülemeyen durumlar (örneğin, uygun sorun giderme ve onarım işlemleri için gerekli olan ekipmanı temin edememe) gibi ancak belirli koşullarda uygulanmalıdır.
AMC1 ORO.MLR.105(g) OPERASYON VE BAKIM PROSEDÜRLERİ
(a) MEL içerisinde bulunan operasyon ve bakım prosedürleri için MMEL kaynaklı operasyon ve bakım prosedürleri esas alınmalıdır. Ancak MMEL ile eş düzeyde emniyetin sağlandığı durumda, işletici tarafından değiştirilmiş prosedürler oluşturulabilir. Değiştirilmiş bakım prosedürleri, SHT-M Talimatına uygun bir şekilde oluşturulmalıdır.
(b) MEL içerisinde atıfta bulunulan gerekli operasyon ve bakım prosedürlerinin temin edilmesi, bunları kimin oluşturduğuna bakılmaksızın işleticinin sorumluluğundadır.
(c) Kabul edilebilir düzeyde bir emniyetin sağlanması için, operasyon veya bakım prosedürü gerektiren MEL içerisindeki her bir parça, MEL' in "açıklamalar" ya da "istisnalar" sütununda/kısmında/bölümünde şu şekilde tanımlanmalıdır. Operasyon prosedürü için "(O)", bakım prosedürü için "(M)", hem operasyon hem de bakım prosedürünün gerekli olduğu durumda ise "(O)(M)" kullanılır.
(d) Tüm prosedürlerin tatmin edici şekilde gerçekleştirilmesi, kimin yaptığına bakılmaksızın, işleticinin sorumluluğundadır.
GM1 ORO.MLR.105(g) OPERASYON VE BAKIM PROSEDÜRLERİ
(a) Operasyon ve bakım prosedürleri, Genel Müdürlük tarafından onaylanan MEL'in ve kabul edilebilir düzeyde bir emniyet temin etmek için ihtiyaç duyulan tamamlayıcı koşulların ayrılmaz bir parçasıdır. Genel Müdürlük, MEL onay sürecinde (O) ve (M) prosedürlerinin eksiksiz bir şekilde sunulmasını isteyebilir.
(b) Normalde, operasyon prosedürleri uçuş ekibi tarafından gerçekleştirilir, ancak diğer personel de belirli fonksiyonları gerçekleştirmeye yetkin ve yetkili olabilir.
(c) Normalde, bakım prosedürleri bakım personeli tarafından gerçekleştirilir, ancak başka personel de SHT-M Talimatına uygun bir şekilde belirli fonksiyonları gerçekleştirmeye yetkin ve yetkili olabilir.
(d) İşletmecinin el kitapları, OM, CAME ya da başka belgeler olabilir. Operasyon ve bakım prosedürleri, belgenin bulunduğu yere bakılmaksızın, MEL'in uygulanması için ihtiyaç duyulduğunda kolayca ulaşılabilecek durumda olmalıdır.

(e) Özellikle bir bakım prosedürü tarafından müsaade edilmedikçe, gayri faal olan bir parça hava aracından çıkartılamaz.
AMC1 ORO.MLR.105(h) OPERASYON VE BAKIM PROSEDÜRLERİ - GEÇERLİ DEĞİŞİKLİKLER
(a) MMEL içerisinde bulunan operasyon ve bakım prosedürlerinde yapılan değişiklikler, şu durumlarda geçerli kabul edilir ve MEL içerisinde bulunan bakım ve operasyon prosedürlerinin revize edilmesini gerektirir: (1) Değitirilmiş prosedürün işleticinin MEL'i için geçerli olması ve (2) Bu değişikliğin amacının ilgili MMEL dispeç koşuluna uygunluğu artırmak olması.
(b) (a) maddesi içerisinde de belirtildiği üzere, bakım ve operasyon prosedürlerinin revize edilmesi için kabul edilebilir zaman dilimi, MMEL içerisindeki prosedürlerin kullanıma sunulduğu tarihten itibaren 90 gün olmalıdır. Genel Müdürlüğün gerekli görmesi halinde, emniyet ile ilgili revizyonların uygulanmasında zaman diliminin azaltılması gerekli olabilir.
AMC1 ORO.MLR.105(j) BİR HAVA ARACININ MMEL'İN KISITLAMALARI DÂHİLİNDE İŞLETİLMESİ GENEL MÜDÜRLÜĞÜN ONAYINA YÖNELİK İŞLETİCİ PROSEDÜRLERİ
(a) Bir hava aracının MEL'in kısıtlamaları dışında ancak MMEL'in kısıtlamaları dâhilinde işletilmesine ve uyumluluğu sağlayacak aralıksız gözetime değinen işletici prosedürleri, ilgili operasyonun kontrolünden sorumlu personelin adı, pozisyonu ve onay kullanımını kontrol etmek için hazırlanan özel görevlere ve sorumluluklara ilişkin ayrıntıları Genel Müdürlüğe sunmalıdır.
(b) Bu onaylara ilişkin operasyonlarla yetkilendirilen personel, görevlerini yerine getirmelerini sağlayacak teknik ve operasyonel disiplin olarak yeterli eğitimi almış olmalıdır. Kolaylık belgesi olan MEL'in operasyonel kullanımı için uçuş ekibi ve bakım personeli mühendislik yetkinliğine ve operasyonel bilgiye sahip olmalıdır. Yetkili personel, görevlerine ve ismine göre listelenmelidir.
GM1 ORO.MLR.105(j) BİR HAVA ARACININ MMEL'İN KISITLAMALARI DÂHİLİNDE İŞLETİLMESİ GENEL MÜDÜRLÜĞÜN ONAYINA YÖNELİK İŞLETMECİ PROSEDÜRLERİ
Bir hava aracının MEL'in kısıtlamaları dışında ancak MMEL'in kısıtlamaları dâhilinde işletilmesine yönelik prosedürler, işleticinin MEL içerisinde belirtilen kısıtlamalara uyamadığı, imalatçı tarafından sağlanması gereken parçaların olmaması ya da diğer öngörülemeyen durumlar (örneğin, uygun sorun giderme ve onarım işlemleri için gerekli olan ekipmanı temin edememe) gibi belirli koşullarda uygulanmalıdır.

TEMEL ASGARİ TECHİZAT LİSTESİ İÇİN SERTİFİKASYON ŞARTNAMESİ VE REHBER DOKÜMAN (CS-MMEL)

BÖLÜM 1 SERTİFİKASYON ŞARTNAMESİ

ALT BÖLÜM 1 GENEL

CS MMEL.050 Kapsam

Bu Sertifikasyon Şartnamesi bir tip sertifikası kapsamına başvuran kişi için, SHY-21'de tanımlanan OSD'nin bir parçası olarak MMEL oluşturup sunmak üzere gereken, değişiklik onayı veya ek tip sertifikasına yönelik şartları belirler.

CS MMEL.100 Uygulanabilirlik

Bu Sertifikasyon Şartnamesi, motorlu kompleks hava araçları için geçerlidir ve MMEL oluşturmak üzere sertifikasyon şartnamelerini içerir.

CS MMEL.105 Tanımlar

SHT-MMEL/MEL Talimatının Madde 4(Tanımlar ve Kısaltmalar) bölümüne bakınız.

CS MMEL.107 Sunulan verilerin durumu

(a) CS-MMEL Alt Bölüm B, başvuru sahibinin sağlaması gereken verileri ve başvuru sahibinin talebi üzerine sağlanan verileri belirtir. Başvuru sahibi tarafından sağlanan veriler, son kullanıcı için zorunlu veya zorunlu olmayan (tavsiyeler) olarak sunulur.

(1) Başvuru sahibinin sağlaması gereken ve son kullanıcı için zorunlu olan veriler:

- CS MMEL.115
- CS MMEL.120
- CS MMEL.130

(2) Başvuru sahibinin sağlaması gereken ve son kullanıcı için zorunlu olmayan (tavsiyeler) veriler:

- CS MMEL.125

(3) Başvuru sahibinin talebi üzerine sağlanan ve son kullanıcı için zorunlu olan veriler:

- CS MMEL.110 (Yalnızca emniyet ile ilgili olmayan parçalar).

(4) Başvuru sahibinin talebi üzerine sağlanan ve son kullanıcı için zorunlu olmayan (tavsiyeler) veriler:

- CS MMEL.135

(bkz. GM1 MMEL.107(a) ve GM2 MMEL.107(a))

(b) CS-MMEL Alt Bölüm C, MMEL'nin oluşturulmasına ilişkin esasları ve başvuru sahibi

tarafından oluşturulması gereken ilgili gerekçeleri sunar.

ALT BÖLÜM B TEMEL ASGARİ EKİPMAN LİSTESİ

CS MMEL.110 MMEL'nin amacı

MMEL, özel işletim koşullarına, kısıtlamalara ya da prosedürlere bağlı olarak belirli bir uçak tipinde veya modelinde geçici olarak gayri faal olabilecek parçaları listeleyen bir dokümandır.

CS MMEL.115 Operasyon türleri

MMEL, hava aracı tipi veya modeline sertifika verilen tüm operasyon türlerini kapsar.

CS MMEL.120 MMEL'nin formatı ve içeriği

(bkz. GM1 MMEL.120, GM2 MMEL.120, GM3 MMEL.120, GM4 MMEL.120 ve GM5 MMEL.120)

(a) MMEL, EASA tarafından kabul edilebilir bir formatta yazılır.

(b) Her bir MMEL, aşağıdakileri içerir:

(1) Onay ve yürürlüğe girme tarihi dâhil olmak üzere onay durumu.

(2) Amaç ve kısıtlamalar, kullanım, birden fazla kullanım dışı parça, onarım süresinin uzatılması, tanımlar ve mümkünse listenin kapsamını, boyutunu ve amacını uygun bir şekilde yansıtan açıklayıcı notlar bir ön söz.

(3) MMEL'deki her bir parça için:

- Onarım süresi kategorisi;
- Uygun olduğu hallerde kurulu sayısı veya tire(-) işareti;
- Uygun olduğu hallerde gerekli olan sayısı veya tire(-) işareti;
- Uygun olduğu hallerde operasyon prosedürü simgesi;
- Uygun olduğu hallerde bakım prosedürü simgesi;
- Uygun olduğu hallerde etiketleme gösterimleri ve
- Uygun olduğu hallerde, operasyon ve bakım prosedürünü gerçekleştirme amacı ve periyodu dâhil ilgili tüm koşullar ve kısıtlamalar.

CS MMEL.125 Operasyon ve Bakım Prosedürleri

(bkz. GM1 MMEL.125)

MMEL'de ilgili simgelerde tanımlanan operasyon ve bakım prosedürlerinin gerçekleştirme talimatları, başvuru sahibi tarafından oluşturulur ve onaylanır.

CS MMEL.130 Onarım Süresi

(bkz. GM1 MMEL.130, GM2 MMEL.130 ve GM3 MMEL.130)

Her bir MMEL parçası için, aşağıda verilen kategorilere göre bir onarım süresi tesis edilir:

(a) Kategori A: Standart bir aralık belirtilmemiştir ancak, bu kategoride yer alan parçalar MMEL'de belirtilen koşullara göre düzeltilecektir.

(1) Takvim günü veya uçuş günü olarak bir zaman dilimi belirtildiğinde, bu aralık keşif gününü kapsamaz.

(2) Takvim günleri veya uçuş günleri haricinde bir zaman dilimi belirtildiğinde;(bu aralık), kusurun işletmecinin onaylı MEL'ine göre ertelendiği noktada başlayacaktır.

(b) Kategori B: Bu kategorideki parçalar, keşif günü hariç olmak üzere 3 takvim günü içerisinde düzeltilecektir.

(c) Kategori C: Bu kategorideki parçalar, keşif günü hariç olmak üzere 10 takvim günü içerisinde düzeltilecektir.

(d) Kategori D: Bu kategorideki parçalar, keşif günü hariç olmak üzere 120 takvim günü içerisinde düzeltilecektir. Bu kategorideki parçalar, aşağıdaki kriterleri karşılar:

(1) Parçanın mevcut olmaması, ekibin iş yükünü olumsuz yönde etkilemez;

(2) Ekip, bu parçanın sahip olduğu fonksiyona rutin veya sürekli olarak bağımlı değildir ve

(3) Ekibin eğitimi, takip eden alışkanlık modelleri ve prosedürleri, ilgili parçanın kullanımına bağımlı değildir.

CS MMEL.135 Onarım Süresinin Uzatılması

MMEL'nin ön sözü, kategori B, C ve D'nin onarım süresinin uzatılmasının uygulanabilir olup olmadığını belirtir.

ALT BÖLÜM C EMNİYET SEVİYESİ VE MMEL PARÇALARININ GEREKÇELENDİRİLMESİ

CS MMEL.140 Emniyet seviyesi

MMEL parçaları, aşağıdaki etmenleri dikkate alan geçerli gereksinimlerde amaçlandığı gibi, kabul edilebilir emniyet seviyesini sağlayacak şekilde hazırlanır.

(a) Hava aracının fonksiyonel kabiliyetlerinin ve/veya emniyet marjlarının azaltılması;

(b) Uçuş ekibinin iş yükündeki değişiklik ve/veya ekip veriminde düşüş;

(c) Bilinen bir indirgenmiş yapılandırmanın dispeç(in) sırasında; hava aracının kalkış, uçuş ve inişi üzerinde emniyete ilişkin en kötü etkiye sahip olan sonraki arızaların hava aracı ve yolcuları üzerindeki sonuçları.

(d) Uygun olduğu hallerde, sonraki dış etmenlerin hava aracı ve yolcuları üzerindeki sonuçları(parça dış etmenlerden korunacak şekilde tasarlanır).

CS MMEL.145 MMEL parçalarının gerekçelendirilmesi

(bkz. GM1 MMEL.145 ve GM2 MMEL.145)

(a) Gerekçeler, her bir MMEL parçasıyla birlikte başvuru sahibi tarafından sunulur.

(b) Her bir parçanın MMEL' e dâhil edilmesi, EASA ile üzerinde anlaşmaya varılarak bir veya birden fazla yöntemle gerekçelendirilir.

(c) Gerekçeler, en az bir nitel emniyet değerlendirmesini kapsar ve bu değerlendirmeler:

(1) Önerilen MMEL dispeç yapılandırmasının hava aracı fonksiyonel kabiliyetleri, uçuş ekibinin iş yükü ve yolcuların konforsuz olması sonuçlarını değerlendirir ve CS MMEL.140 ile uyumu gösterir;

(2) Parça için uygulanabilir ise, bir sonraki emniyetle ilişkili en kötü arızanın sonuçlarını değerlendirir; dış etmenlerden korunması için parça tasarlanan söz konusu etmenlerin sonuçlarını ayrı olarak değerlendirir ve MMEL dispeç yapılandırmasının bir sonraki emniyetle ilişkili en kötü arıza veya olay birleşiminin tehlikeli veya katastrofik arıza durumuna karşılık gelmemesini sağlar ve de

(3) Yukarıdaki paragrafa (2)'ye karşın, aşağıdaki paragraf (d)'ye göre bazı özel durumlar, nicel emniyet değerlendirmesi tarafından desteklenmesi halinde kabul edilebilir.

(bkz. GM1 MMEL.145(c), GM2 MMEL.145(c), GM3 MMEL.145(c) ve GM4 MMEL.145(c))

(d) Nitel emniyet değerlendirmesi, aşağıdaki unsurlardan her ikisi de karşılandığında nicel bir emniyet değerlendirmesiyle tamamlanır:

(1) Katastrofik veya tehlikeli arıza koşullarına dâhil olan parçalar, fonksiyonlar ve/veya sistemler için muafiyet önerilir ve MMEL yapılandırması altındaki arıza durumunun şiddeti; özel işletim koşulları, kısıtlamalar veya prosedürler tarafından hafifletilmez ve

(2) Gayrifaal parçayla gerçekleştirilen operasyon hava aracını tehlikeli arıza durumundan bir arıza önce veya katastrofik arıza durumundan bir veya iki arıza önceye götürdüğünde.

(bkz. GM1 MMEL.145(d) ve GM2 MMEL.145(d))

(e) Bir operasyon veya bakım prosedürü bir MMEL parçasıyla ilişkili olduğunda, ilgili simge MMEL'e dâhil edilir ve prosedürün amacı ilgili parçanın gerekçesinde belirtilir. (bkz. GM1 MMEL.145(e))

CS MMEL.150 Birden fazla kullanım dışı parça

(a) İki MMEL parçasının eş zamanlı olarak uygulanmasına, bunlardan biri diğerini gerekçelendirmek üzere bir hafifletme aracı olarak kullanıldığı zaman izin verilmez.

(b) Uygulanabilir olduğu durumda CS MMEL.140 ile uyumu sağlamak için, birden fazla kullanım dışı parça uygulanmasının birikimli etkileri dikkate alınır.

BÖLÜM 2 REHBER DOKÜMAN

GM1 MMEL.105(a)
GM1 MMEL.105(g) Tanımlar
GM1 MMEL.105(h)

TAKVİM GÜNLERİ

Tüm takvim günlerinin birbiri ardına devam ettikleri kabul edilir.

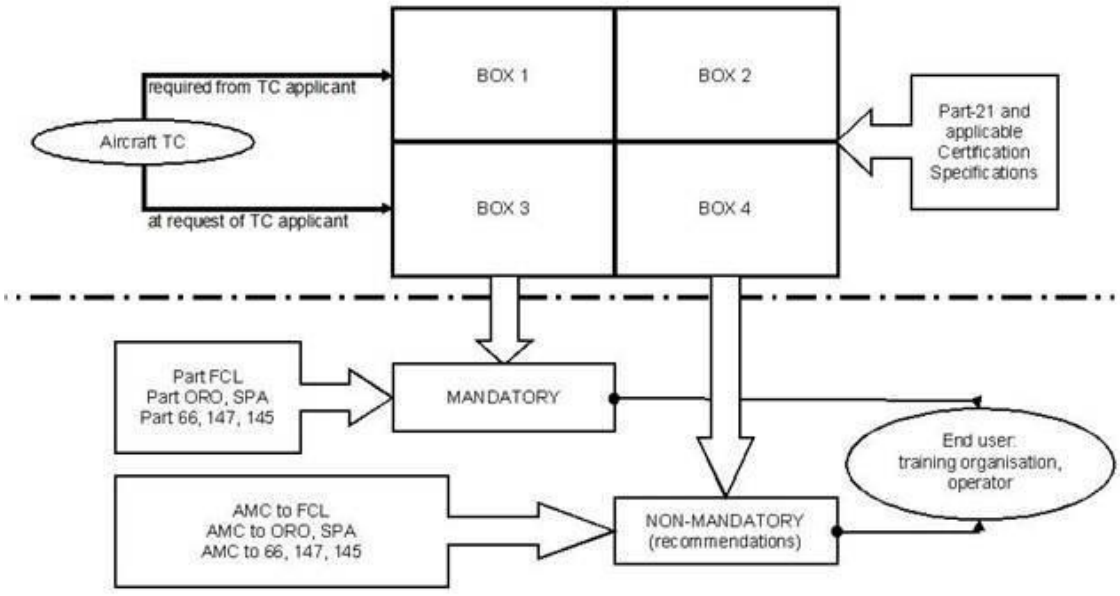
GAYRİ FAAL

Bazı parçalar, arızaya dayanıklı şekilde tasarlanmıştır ve bakım amacıyla arıza mesajlarını ileten bilgisayarlar tarafından izlenmektedir. Bu tür mesajların varlığı, parçanın gayri faal olduğu anlamına gelmez.

PARÇA

(a) Bu Sertifikasyon Şartnamesi kapsamında; bir bileşen, ekipman veya aletin parçası olarak kabul edilir.
(b) Bu Sertifikasyon Şartnamesi kapsamında; bir sistem, bir fonksiyonu yerine getiren ekipmanlardan ve/veya aletlerden oluşan bütün olarak kabul edilir. (Bkz. AMC 25.1309)

GM1 CS MMEL.107(a) Sunulan verilerin durumu: OSD box kavramı



Box 1: Başvuru sahibinin sağlaması gerekir; son kullanıcılar için zorunludur.
Box 2: Başvuru sahibinin sağlaması gerekir; son kullanıcılar için zorunlu değildir (tavsiyeler).
Box 3: Başvuru sahibinin talebi üzerine sağlanır; son kullanıcılar için zorunludur.
Box 4: Başvuru sahibinin talebi üzerine sağlanır; son kullanıcılar için zorunlu değildir (tavsiyeler).

GM2 MMEL.107(a) Sunulan verilerin durumu: OSD box kavramı

(a) MEL hafifletici doğası nedeniyle MMEL'in son kullanıcı için zorunlu veri olduğu gerçeği MEL'in MMEL'den daha az kısıtlayıcı olamayacağını, ancak daha fazla kısıtlayıcı olabileceğini ifade eder.

(b) Başvuru sahibi tarafından sunulan operasyon ve bakım prosedürlerinin içeriği, SHT-OPS EK-3(BÖLÜM ORO) içerisindeki ORO.MLR.105 (g) maddesinde tanımlandığı üzere son kullanıcıya tavsiye edilir.

ALT BÖLÜM B TEMEL ASGARİ EKİPMAN LİSTESİ

GM1 MMEL.110 MMEL'nin amacı

HAVA ARACI TİPİ

Bir MMEL dokümanı, ortak özellikler üzerinden fayda sağlanabilmesi ve her bir parçanın uygulama kapsamının açıkça belirtilmesi kaydıyla birden fazla hava aracı tipini kapsayabilir.

GM2 MMEL.110 MMEL'nin amacı

EMNİYET DIŞI PARÇALAR

(a) Listede yer almayan tüm parçaların, emniyet dışı parçalar olarak kabul edilmedikçe çalışır durumda olması gerekmektedir.

(b) Yolculara kolaylık, konfor veya eğlence sağlama amaçlı parçalar ve bakım amacıyla yalnızca yerde kullanılan ekipmanlar emniyet dışı parçalar kapsamına girer. Yolcuların kolaylığı, konforu veya eğlenmesi kapsamına; hava taşıt mutfağı ekipmanları, film ekipmanları, stereo ekipmanları, baş üstü okuma lambaları gibi parçalar dahil edilebilir. GM1 ORO.OPS.MLR.105(a) maddesinde ek kılavuz sunulmuştur.

(c) Başvuru sahibi tarafından istenilmediği sürece, emniyet dışı parçaların MMEL'e dâhil edilmesi gerekmez.

GM1 MMEL.120 MMEL'nin formatı ve içeriği

GENEL

(a) MMEL normal olarak "beş sütunlu format" dâhilinde yazılmalıdır. GM2 MMEL.120'de yer alan örneklere bakınız. Açık olmaları ve belirsizliğe yer vermemeleri koşuluyla diğer yazılı veya elektronik formatlar kabul edilir.

(b) MMEL('in giriş kısmında); kapak sayfası, revizyon geçmişi, son revizyonda gerçekleştirilen değişikliklerin ayrıntılı özeti, geçerli sayfaların listesi ve (idari kontrol sayfalarıyla birlikte) içindekiler tablosu bulunmalıdır veya yazılı formatta olmayan MMEL'ler için bunlarla eşdeğer bilgiler sunulmalıdır.

(c) GM5 MMEL.120'de, kabul edilebilir ön söz modelini bulabilirsiniz.

(d) MMEL'de listelenen her bir parça, Hava Taşımacılığı Birliği'nin (ATA) 100 veya 2200

kod sistemine göre tanımlanmalı ve belirlenmelidir. Mümkün olduğunca terimlerin ve tanımlama yollarının tutarlılığı, hava aracı dokümanının tamamında korunmalıdır. MMEL, uygun olduğu hallerde parçaların uygulanabilirliğini tanımlama yollarını içermelidir.

(e) İleti Merkezli bir yaklaşım uygulandığında, görüntülenen iletiler ilgili bölümdeki parça başlığında listelenebilir; böylece etkilenen parçalar gösterilmiş olur. Kurulu sayı ve gerekli olan sayı bu yaklaşımda uygulanamaz.

(f) Onarım süresi, başka bir parçaya referans verilerek tanımlanabilir.

(g) Uygulanabilir ve dispeçin tespitiyle ilgili değilse, kurulu sayı ve gerekli olan sayı listelenmeyebilir.

(h) Belirli bir bakım prosedürünün gerekli olduğu durumlarda, bunu belirtmek üzere MMEL girdisinin bir parçası olarak (M) simgesi dâhil edilmelidir. Belirli bir operasyon prosedürünün gerekli olduğu durumlarda, bunu belirtmek üzere MMEL girdisinin bir parçası olarak (O) simgesi dâhil edilmelidir.

(i) Bakım prosedürü bir MMEL parçasıyla ilişkili olduğunda, uygulanabilir olduğu hallerde dispeç durumu ve prosedürün amacının tanımlanması (örneğin bir ekipmanın devre dışı bırakılması) ilgili parçaya dâhil edilmelidir.

(j) Operasyon ve bakım prosedürlerinin içeriğinin alındığı yerlere yapılan referanslar, MMEL'e dâhil edilmelidir.

(k) Hava aracı tarafından normalde yerine getirilmesi amaçlanan operasyon türlerine göre gerekli prosedürün bir (O) mu yoksa (M) mi olarak atanacağına ilişkin karar , prosedürü gerçekleştirmek için en uygun niteliğe sahip ticarete ve hangi ticaretin görevdeyken böyle bir görevi normalde gerçekleştireceğine dayanmalıdır. Buna dayanarak, devreden çıkarma ve emniyete alma görevlerine normalde (M) simgesi ve ekipmanın operasyonuna dayalı prosedürlere ise bir (O) simgesi atanmalıdır.

(l) Prosedürlerin hangi dönemlerde yerine getirileceği, MMEL'nin ön sözünde genel olarak veya ilgili dispeç koşullarında özel olarak açıklanmalıdır. İlgili parça altındaki bakım devre dışı bırakma prosedürü normalde ilk uçuştan önce bir kere gerçekleştirilmelidir. Bakım doğrulama prosedürlerinin uygulanma dönemleri farklılık gösterebileceğinden MMEL'de açıklanmalıdır. Aksi belirtilmedikçe, Operasyon prosedürleri normalde her bir uçuş öncesinde uçuş ekibi üyeleri tarafından yerine getirilmeli veya tasdik edilmelidir.

(m) Etiketleme talimatları; uygulanabilir olduğu ölçüde uçuş ekibini üyelerini ve bakım personelini ilgili parçanın durumu hakkında bilgilendirmek üzere, dispeç koşullarının bir parçası olarak veya ön sözde genel olarak sunulur.

(n) MMEL tarafından özellikle izin verilmediği sürece, gayri faal bir parça kaldırılmamalıdır.

GM2 MMEL.120 MMEL'nin formatı ve içeriği	BEŞ SÜTUNLU FORMAT ÖRNEĞİ

MASTER MINIMUM EQUIPMENT LIST

AIRCRAFT:	REVISION No: DATE:	PAGE:

(1) Systems & Sequence Numbers ITEM	(2) Rectification Interval Category	(3) Number Installed	(4) Number Required for Dispatch	(5) Remarks or Exceptions

GM3 MMEL.120 MMEL'nin formatı ve içeriği	İLETİ MERKEZLİ FORMAT ÖRNEĞİ

Aircraft	Revision No: Rev 3	Sect	Page
	Date:		
1. Message	2. Rectification Interval Category 3. Dispatch Consideration		

GM4 MMEL.120 MMEL'nin formatı ve içeriği	ELEKTRONİK FORMAT ÖRNEĞİ

MMEL item

Repair Interval	Nbr Installed	Nbr required
C	1	0

Placard

O May be inoperative

GM5 MMEL.120 MMEL'nin formatı ve içeriği	MMEL ÖN SÖZÜ

(SPECIMEN)
EUROPEAN AVIATION SAFETY AGENCY
MASTER MINIMUM EQUIPMENT LIST
(AIRCRAFT TYPE)
PREAMBLE

Introduction

The following is applicable for operators under European air operations regulations (Regulation Air Operations). Paragraph 1.c.2 of Annex I to Article 5 (essential requirements for airworthiness) of Regulation (EC) No 216/2008 (the 'Basic Regulation') requires that all equipment installed on an aircraft required for type certification or by operating rules shall be operative. However, paragraph 2.a.3 of Annex IV to Article 8 (essential requirements for air operations) of the Basic Regulation also allows the use of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed items may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

Purpose and limitations

This Master Minimum Equipment List (MMEL) is developed by the applicant and holders of (Supplemental) Type Certificate and approved by the European Aviation Safety Agency to improve aircraft use and thereby providing more convenient and economic air

transportation for the public. This MMEL includes those items related to airworthiness, air operations, airspace requirements and other items the Agency finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. In order to maintain an acceptable level of safety, the MMEL establishes limitations on the duration of and conditions for operation with inoperative items. Unless specifically allowed by this MMEL, an inoperative item may not be removed from the aircraft.

This MMEL includes items identified by a "#" symbol which have been based only on European operational requirements using associated guidance developed by the Agency. These items could be adapted to the applicable operational requirements when these differ from the European operational requirements, if permitted by the State of the Operator, for the approval of the MEL. In this case the MEL content is still considered to be in conformity with the content of this MMEL.

Utilisation

The MMEL is the basis for the development of individual operator's MEL which take into consideration the operator's particular aircraft equipment configuration and operational conditions. An operator's MEL may differ in format from the MMEL, but shall not be less restrictive than the MMEL. The individual operator's MEL, when approved, allows operation of the aircraft with inoperative items of equipment for a certain period of time until rectification can be accomplished.

The MEL cannot deviate from Airworthiness Directives, or any other additional mandatory requirements. It is important to remember that all items related to the airworthiness and the operational regulations of the aircraft not listed on the MMEL shall be operative.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as prescribed in this MMEL shall be specified in the MEL to ensure that an acceptable level of safety is maintained. It is important that rectifications be accomplished at the earliest opportunity.

When an item is discovered to be inoperative, it is reported by making an entry in the continuing airworthiness record system or the operator's technical log, as applicable. Following sufficient fault identification, the item is then either rectified or deferred following the MEL or other approved means of compliance acceptable to the competent authority and the Agency prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in a condition for safe operation with items inoperative.

Prior to operation with any item inoperative acceptance by the crew is required in accordance with the continuing airworthiness management procedures.

Operators shall establish a controlled and sound rectification programme including the parts, personnel, facilities, procedures and schedules to ensure timely rectification.

Operators should include guidance in the MEL to deal with any failures which occur between the commencement of the flight and the start of the take-off.

When developing the MEL, compliance with the stated intent of the preamble, definitions and the conditions and limitations specified in this MMEL is required.

Multiple inoperative items

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative items shall also be considered. Wherever possible, account has been taken in this MMEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on aircraft operation and crew workload shall be considered.

Rectification interval extension

[The operator may be permitted, by its competent authority, to extend the rectification intervals of the MEL.

This MMEL has been evaluated taking into account a one-time extension of the rectification intervals of category B, C and D.]

(The above statement in [] is applicable only if demonstrated during the MMEL review process)

DEFINITIONS AND EXPLANATORY NOTES

[In addition to a preamble arranged and worded along the lines of this Specimen, the MMEL should contain, as part of the preamble, sufficient definitions and explanatory notes to provide the user (this is primarily the operator when compiling the MEL) with a full and proper understanding of the intent and purpose of the items it contains.

While many of the definitions used will be common to all MMELs, others will be specific to particular or individual aircraft types. (Supplemental) TC holders should ensure, when preparing the MMEL, that all relevant definitions are included. Also explanatory notes should be provided in sufficient detail wherever the intent and purpose of a term or phrase or abbreviation etc. is necessary or advisable.]

*1. **'Airplane/Rotorcraft Flight Manual'** (AFM/RFM) means the document required for type certification and approved by the Agency. The AFM/RFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.*

*2. **'Alternate procedures are established and used'** or similar statement, means that alternate procedures (if applicable), to the affected process, must be drawn up by the operator as part of the MEL approval process, so that they have been established before the MEL document has been approved. Such alternate procedures are normally included in the associated operations (O) procedure.*

*3. **'Any in excess of those required by regulations'** means that the listed item is required by applicable legislation (e.g. Part OPS, Single European Sky legislation or the applicable airspace requirements) must be operative and only excess items may be inoperative. When the item is not required, it may be inoperative for the time specified by its rectification interval category. Whenever this condition is used in the MMEL, the applicable regulations for the intended flight routes and the resulting dispatch restrictions need to be clarified at the operator's MEL level.*

*4. **'As required by (operational) regulations'** means that the listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the applicable legislation (e.g. regulation Air Operations, Single European Sky legislation or the applicable airspace requirements). When the equipment is not required, it may be inoperative for the time specified by its rectification interval category.*

*5. **'Calendar Day'** means a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator. All calendar days are considered to run consecutively.*

*6. **'Combustible Material'** means the material which is capable of catching fire and burning. In particular: if a MEL item prohibits loading of combustible (or flammable or inflammable) material, no material may be loaded except the following:*

1) Cargo handling equipment (unloaded, empty or with ballast);

2) Fly away kits (excluding e.g. cans of hydraulic fluid, cleaning solvents, batteries, capacitors, chemical generators, etc.);

Note: If serviceable tyres are included, they should only be inflated to a minimum pressure that preserves their serviceability; and

3) Inflight service material (return catering — only closed catering trolleys/boxes, no newspapers, no alcohol or duty free goods).

*7. **'Commencement of flight'** is the point when an aircraft begins to move under its own power for the purpose of preparing for take-off.*

*8. **'Considered Inoperative'** as used in the dispatch conditions, means that item must be treated for dispatch, taxiing and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item on the dispatch release (if applicable), placarding,*

and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures and observing the rectification interval.

*9. **'Daylight'** means the period between the beginning of morning civil twilight and the end of evening civil twilight relevant to the local aeronautical airspace; or such other period, as may be prescribed by the appropriate authority.*

*10. **'Day of discovery'** means the calendar day that a malfunction was recorded in the aircraft maintenance record/log book.*

*11. **'Flight'** for the purposes of this MMEL, means the period of time between the moment when an aircraft begins to move under its own power, for the purpose of preparing for take-off, until the moment the aircraft comes to a complete stop on its parking area, after the first landing.*

*12. **'Flight Day'**, a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator, during which at least one flight is initiated for the affected aircraft.'**ETOPS**' or **'ER operations'** refers to extended range operations of a two-engine airplane as defined by Part-SPA.*

*13. **'Icing Conditions'** means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s) as defined in the AFM/RFM.*

*14. **'If installed'** means that the item is either optional or is not required to be installed on all aircraft covered by the MMEL.*

*15. **'Inoperative'** means that the item does not accomplish its intended purpose or is not consistently functioning within its approved operating limits or tolerances.*

*16. **'Is not used'** in the provisions, remarks or exceptions for an MMEL item may specify that another item relieved in the MMEL 'is not used'. In such cases, crew members should not activate, actuate, or otherwise utilise that item under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operations-related provisions, (O) procedures must be complied with. An additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crew members that an item is not to be used under normal operations.*

*17. **'Intended flight route'** corresponds to any point on the route including diversions to reach alternate aerodromes required to be selected by the operational rules.*

*18. **'Item'** means component, instrument, equipment, system or function.*

*19. **'(M)'** indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel, however, other personnel may be qualified*

and authorised to perform certain functions. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the Operator's Manual or MEL.

20. ***'Master Minimum Equipment List'*** *means a document approved by the Agency that establishes the aircraft equipment allowed to be inoperative under conditions specified therein for a specific type of aircraft.*

21. ***'Maximum distance from an adequate aerodrome for two-engine aeroplanes'*** *as defined in* ***SPA.ETOPS*** *and* ***CAT.OP.AH.140.***

22. ***'Minimum Equipment List'*** *means a document established as specified under 8.a.3. of Annex IV to Regulation (EC) No 216/2008 and approved by the competent authority, in accordance with ORO.MLR.105, that authorises an operator to dispatch an aircraft with aircraft equipment inoperative as per CAT.IDE.A/H.105 or NCC.IDE.A/H.105 under the conditions specified therein.*

23. ***'Notes'*** *provide additional information for flight crew or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the dispatch conditions.*

24. ***'Number Installed'*** *is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g. passenger cabin items), or not applicable, a number is not required; a '-' is then inserted.*

Note: Where the MMEL shows a variable number installed, the MEL should reflect the actual number installed, as far as practical.

25. ***'Number required for dispatch'*** *is the minimum number (quantity) of items required for operation provided the conditions specified are met. Should the number be a variable (e.g. passenger cabin items) or not applicable, a number is not required; a '-' is then inserted.*

Note: Where the MMEL shows a variable number required for dispatch, the MEL should reflect the actual number required for dispatch, as far as practical, or an alternate means of configuration control approved by the competent authority.

26. ***'-'*** *in the Number Installed Column (respectively Number Required for Dispatch Column) indicates a variable number (quantity) of the item installed (respectively item required) or not applicable.*

Note: Where the MMEL shows a variable number installed, the MEL should reflect the actual number installed, as far as practical.

*27. **'(O)'** indicates a requirement for a specific operational procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorised to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.*

Note: The (M) and (O) symbols are required in the operator's MEL.

*28. **'Operating minima'** means the set of requirements associated to operations requiring a specific approval (refer to Part-SPA).*

*29. **'Placarding'** Each inoperative item must be placarded, as applicable, to inform and remind the crew members and maintenance personnel of the item's condition.*

Note: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

*30. **'Rectification intervals'** Inoperative items or components, deferred in accordance with the MEL, must be rectified at or prior to the rectification intervals established by the following letter designators:*

Category A

No standard interval is specified. However, items in this category shall be rectified in accordance with the conditions stated in the MMEL.

(i) Where a time period is specified in calendar days or flight days, the interval excludes the day of discovery.

(ii) Where a time period is specified other than in calendar days or flight days, it shall start at the point when the defect is deferred in accordance with the operator's approved MEL.

Category B

Items in this category shall be rectified within three (3) calendar days, excluding the day of discovery.

Category C

Items in this category shall be rectified within ten (10) calendar days, excluding the day of discovery.

Category D

Items in this category shall be rectified within one hundred and twenty (120) calendar days, excluding the day of discovery.

*31. **'Remarks or Exceptions'** include statements either prohibiting or allowing operation with a specific number of items inoperative, provisos (conditions and limitations), notes, (M) and/or (O) symbols, as appropriate for such operation.*

*32. **'Required Cabin Crew Seat'** is a seat in the aircraft cabin which meets the following conditions:*

1) Where the certification of the cabin requires this seat to be occupied by a qualified cabin crew member as specified in the Operations Manual;

2) This seat is a part of the station to which a qualified cabin crew member is assigned for the flight; and

3) The qualified cabin crew member assigned to the station is a member of the minimum cabin crew designated for the flight.

*33. **'Visible Moisture'** means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, mist, rain, sleet, hail, or snow.*

GM1 MMEL.125 Operasyon ve bakım prosedürleri
OPERASYON VE BAKIM PROSEDÜRLERİNİN ONAYLANMASI CS MMEL.125'e uyum, her bir operasyon ve bakım prosedürünün tek tek incelenmesini gerektirmez. Operasyon ve bakım prosedürlerine ilişkin doğrulama yöntemlerinin bir tanımı, talep üzerine EASA' ya sunulmalıdır.
GM1 MMEL.130 Onarım Süresi
KATEGORİ D'NİN KULLANIMI Onarım süresi kategori D normalde ilgili sertifikasyon ve operasyonel gereksinimlere göre fazlalık olan tercihe bağlı MMEL parçaları için kullanılır.
GM2 MMEL.130 Onarım Süresi
ONARIM SÜRESİNİN UZATILMASI UZATILMASI (a) MMEL hazırlanırken ön sözünde onarım süresi uzatmalarının ne zaman dikkate alındığını vurgulamalıdır. (b) Nitel analizlerin gerekçenin bir parçasını oluşturduğu durumlarda, onarım süresi ve onarım süresi uzatmaları (varsa) ilgili analizde dikkate alınmalıdır (bkz. CS MMEL.145 ve GM1 MMEL.145(d)).

GM3 MMEL.130 Onarım Süresi

"ATIFTA BULUNULAN PARÇA" İÇİN ONARIM SÜRESİ

Bir MMEL parçası, onarım süresi sunulan başka bir MMEL parçasına veya başka bir dokümana atıfta bulunduğunda, onarım süresinin belirtilmesi gerekmez. Bu gibi bir durumda, bir tire işareti kullanılabilir.

ALT BÖLÜM C EMNİYET SEVİYESİ VE MMEL PARÇALARİNİN GEREKÇELENDİRİLMESİ

GM1 MMEL.140 Emniyet seviyesi

İLGİLİ GEREKSİNİMLER İFADESİNDE KASTEDİLEN

(a) MMEL'nin oluşturulmasında dikkate alınacak ilgili gereksinimler, Tip Sertifikası Temel gereksinimleri ve parçaya ilişkin tüm operasyon gereksinimlerini (hava sahası gereksinimleri dâhil) içerir.

(b) "Kastedilen", gereksinimin veya gereksinimlerin genel amacı doğrultusunda kabul edilebilir emniyet seviyesinin korunması sağlanarak uygun hafifletme yollarının teklif edilmesi kaydıyla ilgili gereksinime veya gereksinimlere sıkı bir şekilde bağlı kalınmasının sağlanamayabileceği anlamına gelir.

GM2 MMEL.140 Emniyet seviyesi

EMNİYET SEVİYESİNİ KORUMA YOLLARI

(a) Bir MMEL parçası için kabul edilebilir emniyet seviyesi, aşağıdaki yollardan biri veya bunların bir kombinasyonu yoluyla korunabilir:

(1) Operasyon kısıtlamalarının ayarlanması;

(2) Uçuş ekibinin iş yükünde ve/veya uçuş ekibinin eğitiminde gerçekleşen değişikliğin kabul edilebilir seviyede kalması koşuluyla, fonksiyonun/bilginin, gerekli fonksiyonu yerine getiren veya gerekli bilgiyi sağlayan faal durumdaki bir sisteme/elemana aktarılması;

(3) Uçuş ekibinin iş yükünde ve/veya uçuş ekibinin eğitiminde gerçekleşen değişikliğin kabul edilebilir seviyede kalması koşuluyla, operasyon prosedürlerinin (örneğin alternatif prosedürlerin; ek uçuş öncesi kontrollerin) geliştirilmesi;

(4) Bakım prosedürlerinin (örneğin ilgili sistemi/elemanı devre dışı bırakma ve emniyet altına alma, ek doğrulama görevlerinin) geliştirilmesi.

GM1 MMEL.145 MMEL parçalarının gerekçelendirilmesi

GEREKÇELERİN İÇERİĞİ

(a) Gerekçeler, ilgili CS-MMEL paragraflarına uyum göstermek üzere gerekli olan bilgileri içerir.

(b) Bir MMEL parçasının gerekçeleri, parça ile ilişkili fonksiyonların, ilişkili fonksiyonel arızaların, arızanın etkilerinin ve uygulanabilir olduğu sürece arızanın nedenlerinin listesini içerir.

(c) İleti merkezli bir MMEL yaklaşımı uygulandığında, bu iletinin görüntülenebileceği tüm arıza kombinasyonları/durumları gerekçelerin hazırlanması sırasında dikkate alınmalıdır.

(d) Emniyet dışı parçalar teklif edildiğinde, CS MMEL.145 ile uyumu göstermek üzere ilgili gerekçeler, parçanın emniyet ile ilgili olmayan mahiyetini göstermekle sınırlı olabilir.

GM2 MMEL.145 MMEL parçalarının gerekçelendirilmesi

MMEL REHBER KİTABININ KULLANIMI

(a) Bu rehber döküman kapsamlı olmayıp, listede yer almayan parçalar için başvuru sahibi tarafından muafiyet teklif edilebilir.

(b) Bir MMEL parçasının gerekçesi, GM1 MMEL.145'de yer alan EK-3'te sunulan rehber dökümana dayanabilir.

(c) GM1 MMEL.145'de yer alan EK-3'te sunulan rehber döküman, ilgili MMEL parçalarının gerekçelerinin oluşturulması için kabul edilebilir bir temeldir. Bu rehber dökümanın temel amacı, özellikle operasyon gereksinimlere tabi olan parçalarla ilgili olmak üzere MMEL'lerde sunulan muafiyet seviyesini standart hale getirmektir.

(d) Bu rehber döküman, CS MMEL.140 ve CS MMEL.145'e uyma gereksinimini ortadan kaldırmayı değil, başvuru sahibinin MMEL gerekçelerinin bir parçası olarak bu dökümana atıfta bulunarak bu görevini hafifletmeyi amaçlar. Bir parçaya ilişkin rehber dökümanın mevcut olması, başvuru sahibinin alternatif MMEL içeriği hazırlamasına engel teşkil etmez.

(e) MMEL parçaları için rehber döküman, ATA bölüm sırasına göre düzenlenmiş olup, MMEL içeriklerini beş sütunlu bir format halinde sunar.

(f) "Ek hususlar" alanı altında, rehber dökümanın tamamlayıcı bir parçası olarak ek yorum dökümanı sunulur.

(g) İlgili gereksinimlere (varsa) yapılan atıflar da yalnızca bilgi amaçlı olarak sunulur.

(h) GM1 MMEL.145'de yer alan EK-3' te ilgili başlık altında "MC" simgesiyle işaretlenen parçaların, SHY-21 uyarınca MMEL ufak değişiklik sınıflandırması için uygun olduğu kabul edilir.

GM3 MMEL.145 MMEL parçalarının gerekçelendirilmesi

ELEKTRONİK MOTOR KONTROL SİSTEMİ (EECS) ARIZALARI - MOTOR ZAMAN SINIRLI DİSPEÇ (TLD)

(a) Bir türbin motoru söz konusu olduğunda, Elektronik Motor Kontrol Sisteminde bulunan Arızalarla birlikte dispeç için onay aranıyorsa, CS E.1030 (Zaman Sınırlı Dispeç (TLD)) ile Uyum gösterilmelidir.

(b) Onarım süresinin uzatılmasını engellemek üzere bu parçalara bir "A" kategorisi onarım süresi atanmalıdır.

GM1 MMEL.145(c) MMEL parçalarının gerekçelendirilmesi

NİTEL EMNİYET DEĞERLENDİRMESİ - GİZLİ ARIZALAR

Hava aracını katastrofik arıza durumundan iki arıza önce bırakan MMEL dispeç yapılandırması söz konusu olduğunda, birden fazla uçuş boyunca gizli kalan bir arıza içeren kombinasyonlara özel dikkat gösterilmelidir. Uygulanabilir olduğunda, MMEL'nin dispeç koşuluna göre (örneğin her bir uçuş öncesinde gizli arızayı gideren doğrulama görevi) bu gibi kombinasyonlardan kaçınılmalıdır. Bu gizli arızalardan kaçınmanın mümkün olmadığı durumlarda, bu arıza kombinasyonları rapor edilmeli ve EASA ile birlikte incelenmelidir.

GM2 MMEL.145(c) MMEL parçalarının gerekçelendirilmesi

NİTEL EMNİYET DEĞERLENDİRMESİ - ÖNCEKİ ONAYLAR

Değerlendirme, önceki MMEL onaylarında yaşanan tecrübeyi yansıtabilir. Ancak, başka bir hava aracı türünde bulunan aynı parçanın önceki MMEL onayı başlı başına emniyet seviyesinin kabul edilebilir olduğu anlamına gelmez. Bu nedenle sistemin işletilmesi ve operasyon türünün benzerliğini içeren diğer etmenler dikkate alınabilir.

GM3 MMEL.145(c) MMEL parçalarının gerekçelendirilmesi

NİTEL EMNİYET DEĞERLENDİRMESİ - UÇUŞ TESTİ/SİMÜLATÖRÜ

Özellikle arızalı parçaların uçuş ekibinin iş yükü ve insan faktörleri üzerindeki sonuçları olmak üzere; bir MMEL parçasının değerlendirilmesine yardımcı olmak için, hava aracı veya tip tasarımının Uçuş Simülasyon Eğitim Cihazı (FSTD) temsilcisi üzerinde, bir uçuş testi veya simülatör/Uçuş Simülasyon Eğitim Cihazı değerlendirmesi kullanılabilir.

GM4 MMEL.145(c) MMEL parçalarının gerekçelendirilmesi

NİTEL EMNİYET DEĞERLENDİRMESİ – OLAĞAN DIŞI VE ACİL DURUM PROSEDÜRLERİNİ KAPSAYAN PARÇALAR

(a) Uçuş ekibinin mevcut bir olağan dışı veya acil durum prosedürü gerçekleştirmesi için

bir parçanın gerekli olması halinde, ilgili parçanın mevcut olmamasının sonuçları, uçuş esnasında potansiyel olarak en kötüye giden arıza durumunun şiddeti dikkate alınarak değerlendirilmelidir.

(b) Bir acil durum taşıtı veya eşdeğeri ile çalışan ve bir acil durum prosedürünü yerine getirmek üzere gerekli olan parçalara genellikle izin verilmez.

GM1 MMEL.145(d) MMEL parçalarının gerekçelendirilmesi

NİCEL EMNİYET DEĞERLENDİRMESİ

(a) CS MMEL.145(d) uyarınca nitel MMEL oluşturma sürecini tamamlamak üzere, nicel bir emniyet değerlendirmesi gerçekleştirilen parçalar rapor edilmelidir.

(b) Uçuş saati başına Katastrofik arıza durumları için her bir $1{,}10^{-8}$ ve Tehlikeli arıza durumları için her bir $1{,}10^{-6}$ olan olasılıkların ilgili dispeç yapılandırmasında karşılanmadığı parçalar, EASA ile birlikte incelenmelidir. Önerilen bu dispeçler için aşağıdaki kılavuz geçerlidir. Bu kılavuz, filonun ortalama hedeflerine ulaşmak için ilgili yapılandırmaların ne kadar süre var olmasına izin verileceğini kontrol etmek üzere kullanılan denklemleri içerir.

(1) Katastrofik arıza durumları için:

(i) Uçuş saati başına dispeç durumu ≤ $1{,}10^{-8}$ iken olasılık, gayri faal parçayla dispeç esnasındaki hedeftir. Bu hedef yerine getirildiğinde, izin verilen maksimum dispeç zamanı için bir hesaplama yapılmasına gerek yoktur.

(ii) $1{,}10^{-8}$/uçuş saati hedefi yerine getirilmediğinde, sınırlı sayıda parça dikkate alınabilir. Bu gibi durumlarda, gayri faal parçayla gerçekleşen dispeç esnasında izin verilen maksimum olasılık $1{,}10^{-7}$/uçuş saatini aşmamalıdır ve maksimum dispeç zamanı aşağıdaki Denklemi (1) kullanarak hesaplanan maksimum dispeç zamanından az olmalıdır.

(iii) $1{,}10^{-8}$/uçuş saati hedefi ve $1{,}10^{-7}$/uçuş saati üst sınırı, dispeç sırasında gayri faal MMEL parçası içeren her bir katastrofik arıza durumu için geçerlidir. Birden fazla üst seviyede olay ilgili duruma dâhil olduğunda, izin verilen maksimum dispeç zamanı etkilenen arıza koşulları için hesaplanan zamanlardan en küçüğü olmalıdır.

Denklem (1):

$$\text{Max\_Disp\_Time}_{CAT}[FH] = \frac{1{,}10^{-9}\ [\text{uçuş\_saati\_başına\_olasılık}]}{PF \cdot FR}$$

Burada

Max_Disp_TimeCAT[FH] = Maks. Dispeç Zamanı [uçuş saatleri]

PF [1/FH] = Dispeç durumunda arıza durumu olasılığı [uçuş saati başına],

FR [1/FH] = Önerilen MMEL parçalarının Arıza Oranı [uçuş saati başına]

(2) Tehlikeli arıza durumları için:

(i) Uçuş saati başına ≤ $1{,}10^{-6}$ iken olasılık, gayri faal parçayla dispeç esnasındaki hedeftir. Bu hedef yerine getirildiğinde, izin verilen maksimum dispeç zamanı için bir hesaplama yapılmasına gerek yoktur.

(ii) $1{,}10^{-6}$/uçuş saati hedefi yerine getirilmediğinde, sınırlı sayıda parça dikkate alınabilir. Bu gibi durumlarda, gayri faal parçayla gerçekleşen dispeç esnasında izin verilen maksimum olasılık $1{,}10^{-5}$/uçuş saatini aşmamalıdır ve maksimum dispeç zamanı aşağıdaki Denklemi (2) kullanarak hesaplanan maksimum dispeç zamanından az olmalıdır.

(iii) $1{,}10^{-6}$/uçuş saati hedefi ve $1{,}10^{-5}$/uçuş saati üst sınırı, dispeç sırasında gayri faal MMEL parçası içeren her bir tehlikeli arıza durumu için geçerlidir. Birden fazla üst seviyede olay ilgili duruma dâhil olduğunda, izin verilen maksimum dispeç zamanı etkilenen arıza koşulları için hesaplanan zamanlardan en küçüğü olmalıdır.

Denklem (2):

$$\text{Max\_Disp\_Time}_{HAZ}[FH] = \frac{1{,}10^{-7}\ [\text{probability\_per\_FH}]}{\text{PF (Uçuş Başına)}.\ FR}$$

Burada

Max_Disp_TimeHAZ[FH] = Maks. Dispeç Zamanı [uçuş saatleri],

[1/FH] = Dispeç durumunda arıza durumu olasılığı [uçuş saati başına],

[1/FH] = Önerilen MMEL parçalarının Arıza Oranı [uçuş saati başına]

Not 1 Katastrofik veya tehlikeli arıza koşullarına dâhil olan MMEL parçaları veya fonksiyonlarının maksimum dispeç zamanları için yukarıda verilen iki denklem, CS 25.1309(b) maddesinin filo ortalama üst düzey güvenilirlik gereksinimleriyle uyumlu dispeç zamanları sunar.

Not 2 MMEL dispeç yapılandırmasının olasılığı $1{,}10^{-7}$/uçuş saati olduğunda, Denklem (1) belirli yapılandırmadaki maksimum işletim süresini filo işletim süresinin ≤ %1'i olarak verir.

Not 3 Yukarıdaki denklemler veya ilgili diğer yöntemler kullanılarak hesaplanan

maksimum dispeç zamanları, başvuru sahibinin Operasyonlar/MMEL grubu tarafından sağlanmalıdır. Bu grup, kabul edilebilir MMEL girişi hakkında karar vermek üzere Operasyon Değerlendirme Kurulları (OEB'ler) ile birlikte çalışacaktır.

Not 4 Yukarıdaki paragrafta kullanılan olasılıklar, AMC 25.1309'da tanımlandığı üzere uçuş saati başına mevcut olan ortalama olasılıklardır.

(3) Dispeç zamanları, temel olarak operasyonel unsurlara dayalı olmalıdır. Mümkün olduğunca MMEL girişi, , hesaplanan maksimum dispeç zamanını (uçuş saatlerinde) C kategorisini aşmayan konservatif bir Kategoriye yuvarlayarak (günlük maksimum hava aracı kullanımına dayanarak), standart Onarım Süresi Kategorilerini kullanmalıdır.

GM1 MMEL.145(e) MMEL parçalarının gerekçelendirilmesi

OPERASYON VE BAKIM PROSEDÜRLERİ

(a) Operasyon ve bakım prosedürlerinin içeriğinin normalde gerekçelerin bir parçası olarak sonuçlandırılması ve dâhil edilmesi gerekmez, ancak yalnızca amaç gerekçelerin bir parçası olarak sunulur.

(b) Bir parçanın gerekçelendirilmesini tamamlamak üzere gerekmesi halinde, Ajans tarafından belirli bir prosedürün içeriği talep edilebilir.

(c) Başvuru sahibi, bakım ve/veya operasyon prosedürlerini MMEL'e dâhil etmeden önce karmaşıklığını değerlendirmelidir.

ATA 22 AUTOFLIGHT

Summary of the guidance items:

Item	ATA
Autopilot	22-10-1
Flight Director	22-10-2
Navigation Databases (MC)	22-71-1

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 22 Autoflight					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22-10-1	**Autopilot (or Autopilot Channel)**				
22-10-1A	(Other than CAT)	C	-	0	(M) (O) May be inoperative provided: (a) Affected autopilot/channel is deactivated, and (b) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** (M) To give guidance on a practical mean to ensure that the affected autopilot/channel will not engage during the flight, and (O) To specify any applicable restriction for operations requiring a specific approval (e.g. PBN/MNPS, RVSM, Low Visibility, ETOPS, etc.)
22-10-1B	(CAT)	C	-	1	(M) (O) Any in excess of one may be inoperative provided: (a) Affected autopilot/channel is deactivated, and (b) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** See 22-10-1A
22-10-1C	(CAT)	B	-	0	(M) (O) May be inoperative provided: (a) Any increase in crew workload caused by the affected autopilot/channel has been considered for intended operation,
	(continued)				

ATA Chapter: 22 Autoflight				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				(b) Operations are conducted under VFR for single pilot operations, (c) Affected autopilot/channel is deactivated, and (d) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** See 22-10-1A
22-10-1-1 Autopilot Functions/Modes				
22-10-1-1A (CAT)	C	-	-	(M)(O) One or more functions/modes may be inoperative provided: (a) Any increase in crew workload caused by the inoperative functions/modes has been considered for intended operation, (b) Inoperative functions/modes are deactivated as applicable, (c) Autopilot heading mode and altitude hold are operative, and (d) Affected functions/modes are not part of the equipment required for intended operation. **Procedures** (M) To give guidance reference to ensure the affected function of the autopilot are properly deactivated and do not interact with functions used for the flight. (O) See 22-10-1A

Additional considerations:

If the autopilot or autopilot functions are required to meet airworthiness requirements (e.g. stabilisation function for rotorcraft, single pilot IFR, etc.), this needs to be taken into account as part of the MMEL evaluation and compliance with CS-MMEL requirements has to be demonstrated.

Some autopilot installations are not dependent on flight director being operative, and basic attitude modes may still be available.

For highly integrated systems the autopilot may not function without the flight director, and therefore autopilot inoperative relief would also apply (see guidance item 22-10-2).

If flight director modes of the autopilot are used to show compliance with requirements applicable to the means of measuring and indicating turn and slip, aircraft attitude or stabilised aircraft heading, in combination with instruments, additional restrictions related to the loss of associated indications may be applicable.

For the intended operations, any increase in crew workload caused by the inoperative functions has to be considered. This condition needs to be specified in the MMEL (e.g. number of flights, leg duration, etc.)

Any additional limitations (e.g. flight time) may result from the above review.

Applicable operating minima (e.g. CAT2/CAT3 operations) or navigation specifications (e.g. B-RNAV, RNP) requirements may be specified at the level of the MMEL or refer to appropriate section of AFM or Operations Manual. The above guidance shows these restrictions covered at operational procedures level but having them reflected at dispatch conditions level is also acceptable.

If the aircraft is certified for ETOPS operations, associated restrictions may be included, as appropriate.

The above guidance indicates the need to deactivate the affected autopilot/channel for dispatch. Some autopilot design may not offer the possibility to fully comply with this requirement. Alternate conditions can in these cases be proposed provided adequate safeguards against erratic autopilot behaviour are demonstrated.

22-10-1C:

For single pilot CAT operations, depending on the use of autopilot in routine procedures, the operations may be restricted to day VMC only.

22-10-1-1 sub-item covers failure of functions of the autopilot, which do not lead to the disconnection of the associated autopilot (autopilot channel).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 22 Autoflight				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22-10-2 Flight Director Symbols (FD Bars)				
22-10-2A	C	-	-	(O) May be inoperative provided: (a) Affected flight director is not part of the equipment required for intended operation, and (b) Associated autopilot, if affected, is considered inoperative (Refer to 22-10-1). **Procedures** (O) To specify any applicable restriction for operations requiring a specific approval (e.g. PBN/MNPS, RVSM, Low Visibility Operations (LVO), etc.)

Additional considerations:

This item covers display of symbols only (e.g. FD bars).

A shorter rectification interval or a minimum of one FD bars operative may be required based on operational considerations such as the amount of reliance that is placed on the FD and the level of training with the FD inoperative. Additional restrictions due to considerations on the autopilot items may also be applicable in case of integrated architecture.

AFM limitations that may identify any approaches that cannot be flown if the FD is inoperative as a result of certification flight tests have to be taken into account.

Aircraft applicability: Aeroplanes & Helicopters:

ATA Chapter: 22 Autoflight				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22-71-1 Navigation Database **(MC)**				Note: A database which is out of date is considered to be inoperative.
22-71-1A	C	-	0	(O) One or more may be inoperative for the intended flight route where conventional (non-RNAV/RNP) navigation is sufficient, provided (a) Current aeronautical information (e.g. charts) is available for the entire route and for the aerodromes to be used, and (b) Navigation database information is disregarded, and (c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures are manually tuned and identified. **Procedures** (O) To give guidance reference to established operator's procedure to ensure the dispatch conditions requirements are met prior to release of the aircraft.
22-71-1B	C	-	1	(O) Any in excess of one may be inoperative provided: (a) The operative database must be up to date for routes, departures, arrival and approach procedures that require the use of navigation Database for RNAV/RNP, and (b) The operative database is available and used by the flight crew member(s) responsible for navigation, and
(continued)				

ATA Chapter: 22 Autoflight

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				(c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures are manually tuned and identified. **Procedures** (O) To give guidance reference to established operator's procedure to ensure dispatch conditions requirements are met prior to release of the aircraft.
22-71-1C	A	-	0	(O) One or more may be out of date for a maximum of 10 calendar days provided: (a) Area Navigation (RNAV/RNP) departure, arrival and approach procedures are checked not to depend on the data amended in the current database cycle or Conventional (Non-RNAV/RNP) or ANSP assistance are used as an alternative to RNAV/RNP procedures which have been amended in the current database cycle, (b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and suitability of Navigation Facilities required for the intended flight route, and (c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified. **Procedures** (O) To give guidance reference to established operator's procedure to ensure the dispatch conditions requirements are met prior to release of the aircraft.

Additional considerations:

The item in the current guidance is separated into two set of provisos:

- 22-71-1B applicable when RNAV/RNP operations are not conducted (C rectification interval), and
- 22-71-1C applicable to operations where RNAV/RNP may be conducted (A rectification interval maximum 10 calendar days). The wording of condition (a) may be customised to the specific types of operations intended to be conducted.

This is to reduce the exposure time for aircraft navigated in RNAV/RNP airspace with downgraded capability due to outdated databases.

Condition (c) is required for system design where the radio navaids are automatically tuned by using the database data.

Summary of the guidance items:

Item	ATA
Headset	23-10-1
Audio Selector Panel	23-10-2
Flight Crew Compartment Speaker	23-10-3
HF Communications	23-11-1
VHF Communications	23-12-1
Audio Selector Panel Frequency Controls and Indications	23-13-1
Datalink (MC)	23-20-1
Public Address System	23-30-1
Datalink	23-30-2
Flight Crew Interphone System (Flight Crew Compartment Intercommunication) (MC)	23-40-1
Crew Member Interphone System (MC)	23-40-2
Flight Crew Compartment Door Surveillance System (MC)	23-70-1
Cockpit Voice Recorder (MC)	23-71-1

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-10-1 Headset (MC)				
23-10-1A	D	-	-	Any in excess of one headset (including boom microphone) for each required crew member on flight crew compartment duty may be inoperative or missing.

Additional considerations:

Additional certification requirements may impose additional restrictions (e.g. spare headset on single pilot helicopter).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-10-2	**Audio Selector Panel**				
23-10-2A		D	-	-	Any in excess of one for each required crew member on flight crew compartment duty may be inoperative.
23-10-2B		D	-	-	May be inoperative provided: (a) The flight is conducted under VFR, and (b) Required communication can be ensured using alternate means.
23-10-2-1	Press To Transmit (PTT) Switch				
23-10-2-1A		B	-	-	(M) Any in excess of one for each required flight crew member may be inoperative provided the affected switch is either verified failed open (non-transmitting) or is deactivated. **Procedures** (M) Check of the failure of the switch in open (non-transmitting) position or deactivation in open position.

Additional considerations:

Additional requirements may be introduced if the Audio Selector Panel failure has consequences on the aural warning broadcasting.

All aural alerts, messages and other communication which are normally routed through the flight crew compartment speakers must be audible through the headsets.

There may be components of the audio control panel inoperative; however, the panel is still adequate for flight. Above items do not address sub-components (e.g. ADF identification function) and it is considered the captain's decision to dispatch with necessary equipment operative.

Operators of Helicopter Emergency Medical Service (HEMS) or helicopters employing rescue equipment (i.e. winches, etc.) or human external cargo may need to consider whether additional crew members (not situated within the flight crew compartment) are included within their MEL alleviation.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-10-3	**Flight Crew Compartment Speaker**				
23-10-3A		C	-	0	(O) May be inoperative provided: (a) A headset is operative for each required crew member on flight crew compartment duty, and (b) A spare operative headset is readily available in the flight crew compartment for use by any of the required crew member on flight crew compartment duty. **Procedures** (O) To provide alternate procedures for the use of headsets, as appropriate.

Additional considerations:

It should be ensured that the affected speaker is not used for crew intercommunication when smoke masks are used unless single pilot operations are conducted.

If there are emergency (e.g. smoke) procedures which require the crew to establish communication then relief for both cannot be granted, but depending on flight test results, relief for one may be possible.

All aural alerts, messages and other communication which are normally routed through the flight crew compartment speakers should remain audible through the headsets and be recordable by the CVR (or the CVR should be considered inoperative). In the case aural alerts and required communications could be heard only through the headsets, these should be worn permanently by at least one crew member on flight crew compartment duty.

Considerations should be given to audio system configuration in degraded electrical configuration, in particular when credit has been taken on the availability of flight crew compartment speakers.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-11-1 HF Communications				
23-11-1A	D	-	-	Any in excess of those required for the intended flight route, may be inoperative.
23-11-1B	C	-	1	(O) Any in excess of one may be inoperative provided: (a) SATCOM air-ground communications with Air Traffic Service Providers (ATSPs) are available for the intended flight route, (b) SATCOM Voice or Data transfer functions are operative, (c) Prior to each flight, coordination with the appropriate Air Navigation Service Provider(s) is established where INMARSAT codes, or equivalent, are not available whilst using SATCOM voice function, and (d) Alternate communication procedures are established and used. Note: The intended flight route corresponds to any point on the route including diversions to reach alternate aerodromes required to be selected by the operational rules.
(continued)				

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				**Procedures** (O) To provide alternate communication procedures. SATCOM is to be used only as a backup to normal HF communications unless otherwise authorised by the appropriate Air Navigation Service Provider(s)
23-11-1C	A	-	1	(O) Any in excess of one may be inoperative for a maximum of 3 calendar days provided alternate communication procedures are established and used. **Procedures** (O) To provide alternate communication procedures. When the route enters airspace for which an In Flight Blind Broadcast Procedure exists, select the appropriate I.F.B.B. VHF frequency and apply the procedure.

Additional considerations:

When relief if foreseen for an HF communication system powered under an emergency bus, additional considerations should account for the capability to maintain an acceptable level of safety with residual means of communication and navigation, depending on the kind of operations (e.g. ETOPS) and impose additional restrictions, as necessary.

23-11-1A:

This entry allows dispatch with HF communication in excess of the applicable requirements.

A radio communication system is required for operations in a controlled airspace, under IFR or at night.

In addition, for Commercial Air Transport operations under IFR or under VFR over routes that cannot be navigated by reference to visual landmarks, two independent means of communication are required and each system should have an independent antenna installation, except where rigidly supported non-wire antenna or other antenna installations of equivalent reliability are used.

23-11-1B & C:

These entries are applicable for flights on routes that require two long range communication systems.

Although SATCOM voice and data link may be used as long range communication systems in order to meet applicable operational requirements, not all ATC facilities are adequately equipped to handle SATCOM data or voice as the primary means of communication.

SATCOM data or voice may however be accepted as a backup to normal HF communication systems.

HF-voice is the only LRCS currently available for Air Traffic Control communications in many areas.

Therefore, in areas requiring two operational LRCSs, at least one must be HF-voice and in areas requiring one LRCS, that system must be HF-voice.

Additional restriction to ensure availability of ACAS may be considered.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-12-1	**VHF Communications**				
23-12-1A	(Other than CAT)	D	-	-	Any in excess of those required may be inoperative.
23-12-1B	(CAT)	C	-	1	(O) Any in excess of one, may be inoperative provided: (a) Operations are conducted under VFR over routes navigated by reference to visual landmarks, (b) Applicable airspace requirements for the intended flight route are complied with, and (c) Alternate procedures are established and used, if applicable. **Procedures** (O) To provide alternate procedures if the affected VHF was used to accomplish procedures for the intended flight route. To provide procedures to address next in-flight failure of the remaining system, if not otherwise available.
23-12-1C	(CAT)	C	-	2	(O) Any in excess of two, may be inoperative provided alternate procedures are established and used, if applicable. **Procedures** See 23-12-1B.

Additional considerations:

When relief if foreseen for a VHF communication system powered under an emergency bus, additional considerations should account for the capability to maintain an acceptable level of

safety with residual means of communication and navigation, depending on the kind of operations and impose additional restrictions, as necessary.

Additional condition on SSR transponder availability to cover next in-flight failure may be needed.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-13-1	**Audio Selector Panel Frequency Controls and Indications**				
23-13-1-1	Frequency Transfer Light				
23-13-1-1A		C	-	0	May be inoperative.
23-13-1-2	Frequency Transfer Switch				
23-13-1-2A		C	-	0	May be inoperative.
23-13-1-3	Frequency Selector Knob				
23-13-1-3A		C	-	2	Any in excess of two may be inoperative.
23-13-1-4	Frequency Indication				
23-13-1-4A		C	-	2	Any in excess of two may be inoperative.

Additional considerations:

This guidance may be adapted to the aircraft's specific design.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-20-1 Datalink (MC)				
23-20-1A	C	-	0	(O) May be inoperative provided alternate procedures are established and used. **Procedures** (O) To provide alternate procedure to the crew to manage communications, as applicable in the airspaces in which aircraft is operated.
23-20-1B	D	-	0	May be inoperative provided procedures do not require its use.

Additional considerations:

Option 23-20-1B is applicable for aircraft not required to have datalink installed as per Commission Regulation (EC) No 29/2009 or whenever aircraft is operated below FL285.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-30-1	**Public Address (PA) System**				
23-30-1A		D	-	-	Any in excess of those required may be inoperative provided procedures do not require their use.
23-30-1B		C	-	-	(O) Any in excess of those required may be inoperative provided alternate procedures are established and used.
23-30-1C		B	-	0	(O) May be inoperative provided: (a) Alternate procedures are established and used, and (b) Flight crew compartment from and to cabin interphone system (including audio and visual alerting system) is operative. **Procedures:** (O) To provide alternate normal and emergency communication procedures between flight crew compartment and cabin and/or operating restrictions as appropriate for the intended operations.
23-30-1D		D	-	0	(O) May be inoperative provided operations are conducted in cargo only configuration with all occupants in the Flight Crew Compartment. **Procedures:** (O) To provide alternate normal and emergency communication procedures and/or operating restrictions as appropriate for the intended operations.

(continued)

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
23-30-1E	C	-	0	(O) May be inoperative provided: (a) Operations are conducted in cargo only configuration, and (b) Flight crew compartment/cabin interphone system (including audio and visual alerting system) is operative, and (c) Alternate procedures are established and used. **Procedures:** (O) To provide alternate normal and emergency communication procedures and/or operating restrictions as appropriate for the intended operations.
23-30-1F	D	-	0	(O) May be inoperative provided: (a) Operations are conducted with no passengers, (b) All occupants are in the flight crew compartment.

Additional considerations:

The alternate procedures will have to be developed to account for any procedures based on the use of the PA, in particular in areas such as lavatories and crew rest, etc.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-40-1	**Flight Crew Interphone System (Flight Crew Compartment Intercommunication) (MC)**				
23-40-1A		D	-	-	Any system in excess of those required may be inoperative.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-40-2	**Crew Member Interphone System (MC)**				
23-40-2A		D	-	-	Any in excess of those required may be inoperative provided procedures do not require their use.
23-40-2B		C	-	-	(O) Any in excess of those required may be inoperative provided alternate procedures are established and used.
23-40-2-1	Flight Crew Compartment to Cabin Cabin to Flight Crew Compartment Interphone				
23-40-2-1A		B	-	-	(O) May be inoperative provided: (a) An adequate number of interphone terminals, accessible by each required cabin crew from its assigned area or from the nearest assigned area are operative, and (b) Alternate procedures are established and used, and (c) Flight crew compartment interphone aural alerting system is operative. **Procedures:** (O) To provide alternate normal and emergency communication procedures between flight crew compartment and cabin including access to the flight crew compartment from the cabin and/or operating restrictions as appropriate for the intended operations

(continued)

ATA Chapter: 23 Communications

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				
23-40-2-2	Flight Crew Compartment Handset (if installed)				
23-40-2-2A		C	-	0	(O) May be inoperative provided: (a) Flight crew compartment to cabin communication is operative, and (b) Alternate procedures are established and used. **Procedures:** (O) To provide alternate normal and emergency communication procedures between flight crew compartment and cabin and/or operating restrictions as appropriate for the intended operations.
23-40-2-3	Cabin to Cabin Interphone				
23-40-2-3A		C	-	0	(O) May be inoperative provided alternate procedures are established and used. **Procedures:** (O) To provide alternate normal and emergency communication procedures between affected crew members using or not the public address system and/or operating restrictions as appropriate for the intended operations.
23-40-2-4	Flight Crew Compartment and/or Cabin to Crew Rest Facility/Bunk				
23-40-2-4A		C	-	0	(O) May be inoperative provided: (a) Public address system is operative, and (b) Alternate procedures are established and used.
	(continued)				

ATA Chapter: 23 Communications

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					**Procedures:** (O) To provide alternate normal and emergency communication procedures between affected crew members and/or operating restrictions as appropriate for the intended operations.
23-40-2-4B		C	-	0	(O)(M) May be inoperative provided: (a) Affected crew rest facility/bunk is not occupied, and (b) Affected crew rest facility/bunk is placarded 'DO NOT OCCUPY'. **Procedures:** (O) To provide alternate normal and emergency communication procedures between affected crew members and/or operating restrictions as appropriate for the intended operations. (M) To give guidance reference for placarding the affected area.
23-40-2-5	Alerting System (Audio/Visual)				
23-40-2-5A		C	-	-	(O) May be inoperative provided: (a) Flight crew compartment call audio alerting system is operative, (b) Public Address system is operative, and (c) Alternate procedures are established and used. Note: If the lavatory smoke alerting system is affected, the lavatory smoke detector is considered inoperative (refer to 26-17-1) or an alternate indication must be operative (e.g. flight crew compartment alert). **Procedures:** (O) To provide alternate normal and emergency communication procedures for contacting crew members as appropriate for the intended operations.
(continued)					

ATA Chapter: 23 Communications

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
23-40-2-6	Cabin Handset				
23-40-2-6A		C	-	-	(O) One or more may be inoperative provided: (a) At least 50 % of the cabin handset is operative, (b) One handset is operative at each pair of floor level exit door, (c) Operative handsets are located at operative cabin crew seats, and (d) Alternate procedures are established and used. **Procedures:** (O) To provide alternate normal and emergency communication procedures as appropriate for the intended operations.
23-40-2-6B		C	-	-	(O) May be inoperative at any non-required cabin crew seat.
23-40-2-7	Flight Crew to Ground/Ground to Fligh Crew Interphone (MC)				
23-40-2-7A		C	1	0	(O) May be inoperative provided alternate procedures are established and used. **Procedures:** (O) To provide alternate communication procedures between flight crew compartment and ground as appropriate for the intended operations.

Additional considerations:

23-40-2-1

In order to determine the minimum required interphone terminals (handsets) in the cabin, the accessibility (cabin layout, monuments impairing visibility) and the distance from any point of the area assigned to the required cabin crew to the next operative interphone terminals have to be considered.

Any crew interphone station that is operative may be used.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-70-1 Flight Crew Compartment Door Surveillance System (e.g. CCTV) (MC)				
23-70-1A	D	-	0	(O) May be inoperative provided alternate procedures are established and used.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 23 Communications					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-71-1	**Cockpit Voice Recorder System (MC)**				
23-71-1A		D	-	-	Any in excess of those required may be inoperative.
23-71-1B		A	-	0	May be inoperative provided: (a) The aircraft does not exceed 8 further consecutive flights with the cockpit voice recorder inoperative, (b) A maximum of 72 hours have elapsed since the cockpit voice recorder was found to be inoperative, and (c) Any Flight Data Recorder required to be carried is operative. <u>Note:</u> This alleviation is not applicable to Flight data and cockpit voice combination recorders. For those combined systems, see the entries for combination recorders in item 31-31-2.

Additional considerations:

N/A

Summary of the guidance items:

ITEM	ATA
Flight Crew Seats	25-11-1
Observer Seats	25-11-2
Passenger Seats	25-21-1
Cabin Crew Seat Assembly (single or dual position)	25-21-2
Exterior Lavatory Door Ashtrays (MC)	25-40-1
Interior Lavatory Ashtrays (MC)	25-40-2
Escape Slides	25-60-1
Independent portable lights (MC)	25-60-2
Protective Breathing Equipment (PBE) (MC)	25-60-3
Megaphones (MC)	25-60-4
Life rafts (MC)	25-60-5
Survival Equipment (MC)	25-60-6
Emergency Flotation Equipment	25-60-7
Crash Axes and Crowbars (MC)	25-61-1
First-Aid Kits (MC)	25-62-1
Emergency Medical Kits (MC)	25-62-2
Emergency Locator Transmitter (MC)	25-63
Life jackets (MC)	25-64-1

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-11-1	**Flight Crew Seats (MC)**				
25-11-1-1	Power Adjustments				
25-11-1-1A		D	-	0	May be inoperative for each flight crew member.
25-11-1-2	Manual Adjustments				
25-11-1-2-1	Horizontal Adjustments				
25-11-1-2-1A		-	-	-	Must be operative for each flight crew member.
25-11-1-2-2	Vertical and Recline Adjustments				
25-11-1-2-2A		B	-	0	One or more may be inoperative provided the associated power adjustment of the affected flight crew member seat is operative.
25-11-1-2-2B		B	-	0	(M) One or more may be inoperative provided the affected seat is secured or locked in a position acceptable to the flight crew member.
25-11-1-2-3	Other Adjustments				
25-11-1-2-3A		C	-	0	(M) One or more may be inoperative provided the affected seat is secured in a position acceptable to the flight crew member. Note: If an inoperative armrest will hinder an emergency evacuation or any other flight duties it should be removed. **Procedures** (M) To give guidance reference for a practical means of securing the seat position.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-11-2 Observer Seats (MC)				
25-11-2A	D	-	0	One or more may be inoperative provided the affected seat is not occupied and is correctly stowed.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-1 Passenger Seats (MC)				
25-21-1A	D	-	-	(M) One or more may be inoperative provided: (a) Inoperative seat does not block an emergency exit, (b) Inoperative seat does not restrict any passenger from access to the main aircraft aisle, and (c) Affected seat(s) are blocked and placarded 'DO NOT OCCUPY'. Note: A seat with an inoperative or missing occupant restraint system (seat belt, safety harness, as applicable) is considered inoperative. **Procedures:** (M) To give guidance reference for identifying the affected seat(s) and a practical mean of prohibiting the use of the affected seat(s).

Additional considerations:

Any damage to passenger seats and components must not be detrimental to passenger safety.

The passenger seat item includes seat back but the recline function (if installed) is covered under a dedicated item 25-21-1-1.

This item or associated sub-items do not include tray tables that may, if inoperative in other than stowed position, render the seat or seat row, behind the seat to which the tray table is attached, inoperative. A tray table inoperative in the stowed position is considered as a passenger convenience item.

For single aisle configurations and for seats in the left and right (outboard) sections of two-aisle aircraft, the affected seat(s) may include the seat behind and/or the adjacent outboard seats.

For the centre section of two-aisle configurations, the affected seat may only be the seat aft of the inoperative seat.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-1	**Passenger Seats**				
25-21-1-1	Recline Functions (MC)				
25-21-1-1A		D	-	-	(M) One or more may be inoperative and the affected seat occupied provided the seat is secured in the take-off and landing position. **Procedures:** (M) To give guidance reference for a practical means of securing the seat in the take-off and landing position.
25-21-1-1B		C	-	-	One or more may be inoperative and the affected seat occupied provided the seat back is immovable in the take-off and landing position.

Additional considerations:

Any damage to passenger seats and components must not be detrimental to passenger safety.

The seat recline position can be failed in take-off and landing position other than the full upright position, when the seat has been certified to this alternate position(s).

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-1	**Passenger Seats**				
25-21-1-2	Underseat Baggage Restraining Bars (MC)				
25-21-1-2A		D	-	-	(O) May be inoperative or missing provided: (a) Baggage is not stowed under associated seat, (b) Associated seat is placarded 'DO NOT STOW BAGGAGE UNDER THIS SEAT', and (c) Procedures are established and used to alert cabin crew of inoperative restraining bars. **Procedures:** (O) To ensure the cabin crew is briefed about affected seat position.

Additional considerations:

Any damage to passenger seats and components must not be detrimental to passenger safety

The basis of certification of the seat or seat assembly will need to be verified to determine if an inoperative or missing underseat baggage restraining bar affects the integrity of the seat.

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-1	**Passenger Seats**				
25-21-1-3	Passenger Seat Armrests with Recline Control Mechanism (MC)				
25-21-1-3A		D	-	-	(M) May be inoperative, damaged or missing and the affected seat occupied, provided: (a) The affected armrest does not block an emergency exit, (b) The affected armrest is not in such a position that it restricts any passengers from access to the aircraft aisle, and (c) If armrest is missing, seat is secured in the full upright position. **Procedures** (M) To give guidance reference for a practical means of securing the seat in the upright position.
25-21-1-4	Passenger seat armrests without recline control mechanism (MC)				
25-21-1-4A		D	-	-	May be inoperative, damaged or missing, and the affected seat occupied provided: (a) The affected armrest does not block an emergency exit, and (b) The affected armrest is not in such a position that it restricts any passengers from access to the aircraft aisle.

Additional considerations:

Any damage to passenger seats and components must not be detrimental to passenger safety.

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-1	**Passenger Seats**				
25-21-1-5	Swivel/Travel Mechanisms (MC)				
25-21-1-5A		D	-	-	(M) One or more may be inoperative and the affected seat occupied provided: (a) Affected seat is secured in take-off and landing position, (b) Affected seat does not block an emergency exit, and (c) Affected seat does not restrict any passenger from access to the main aircraft aisle. **Procedures:** (M) To give guidance reference for a practical means of securing the seat in required position.
25-21-1-5B		C	-	-	One or more may be inoperative and the affected seat occupied provided the affected seat is immovable in take-off and landing position.

Additional considerations:

Any damage to passenger seats and components must not be detrimental to passenger safety.

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-21-2	**Cabin Crew Seat Assembly (single or dual position)**				
25-21-2-1	Required Cabin Crew Seat				Note: See definition of 'required cabin crew seat'
25-21-2-1A		B	-	-	(M)(O) One seat or seat assembly may be inoperative provided: (a) Inoperative seat or seat assembly is not occupied, (b) Cabin crew displaced by inoperative seat occupies the adjacent cabin crew seat or the passenger seat most suitable to perform assigned duties, (c) Alternate procedures are established and used for displaced cabin crew, (d) Folding type seat is stowed or secured in the retracted position, and (e) Where a passenger seat is assigned to the displaced cabin crew it is placarded 'FOR CABIN CREW USE ONLY'. Note: A seat with an inoperative or missing seat belt or harness is considered inoperative. **Procedures:** (M) to give guidance reference for placarding and securing the folding type seat in the retracted position if failure modes preventing stowage are existing. (O) to give guidance reference for normal, abnormal and emergency procedures affected by cabin crew displacement.

(continued)

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
25-21-2-2 Excess Cabin Crew Seat				
25-21-2-2A	C	-	0	(M)(O) Seat or seat assembly in excess of requirements and assigned to a cabin crew may be inoperative provided: (a) Inoperative seat or seat assembly is not occupied, (b) Alternate procedures are established and used for displaced cabin crew, (c) Folding type seat is stowed or secured in the retracted position, and (d) Where a passenger seat is assigned to the displaced cabin crew it is placarded 'FOR CABIN CREW USE ONLY'. Note: A seat with an inoperative or missing seat belt or harness is considered inoperative. **Procedures:** (M) To give guidance reference for placarding and securing the folding type seat in the retracted position if failure modes preventing stowage are existing. (O) To give guidance reference for normal, abnormal and emergency procedures affected by cabin crew displacement.
25-21-2-2B	C	-	0	(M) Seat or seat assembly in excess of requirements and not assigned to a cabin crew may be inoperative provided: (a) Inoperative seat or seat assembly is not occupied, and (b) Folding type seat is stowed or secured in the retracted position or removed. Note: A seat with an inoperative or missing seat belt or harness is considered inoperative.
(continued)				

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				**Procedures:** (M) To give guidance reference for placarding and securing the folding type seat in the retracted position if failure modes preventing stowage are existing.

Additional considerations:

A definition for 'Required Cabin Crew Seat' is provided in GM4 MMEL.120.

The above-mentioned relief is only permissible if more than one cabin crew is assigned to duty or more than one seat or seat assembly is located in the passenger cabin. This is for safety reasons to ensure that at least one cabin crew is seated in a proper cabin crew seat in the cabin.

When only one cabin crew seat is required and the maximum operational passenger seating configuration (MOPSC) is of 20 or more, this cabin crew seat is not allowed to be included in the MMEL. This item has been split into 25-21-2-1 'seats required by regulation' and 25-21-2 'seats in excess of requirements' to facilitate separate categorisations.

Some cabin configurations may permit more than one required cabin crew seat to be inoperative based on specific justifications.

If additional cabin crew are carried and duties assigned, then the seat occupied by that cabin crew is no longer considered excess to requirements and that seat must meet the appropriate design requirements. Hence the wording 'assigned' in 25-21-2-2..

A cabin crew seat must be located in the passenger cabin; this excludes a seat located in the cargo area of a passenger/cargo combi configured aircraft. Individual operators, when operating with inoperative seats, must consider the locations and combinations of seats to ensure that the proximity to exits and distribution requirements of the applicable regulations are met.

Because of safety reasons, a note indicates that the use of cabin crew seats with no shoulder harness is not acceptable.

A good view of the area(s) of the cabin for which the displaced cabin crew is responsible has to be maintained, as far possible.

Cabin crew direct view pertains to direct visual contact between the flight attendant and the passenger cabin. It is possible that not all cabin crews will have a direct view of the cabin.

However, the important consideration is that the majority of the passenger cabin is in direct view of some cabin crews.

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-40-1 Exterior Lavatory Door Ashtrays (MC)				
25-40-1A	A	-	0	One or more may be inoperative or missing provided repairs are made within three consecutive calendar days.
25-40-1B	A	-	-	One or more may be inoperative or missing provided: (a) One operative exterior lavatory door ashtray can be readily seen and accessed from the affected lavatory door, and (b) Repairs are made within ten consecutive calendar days.
25-40-1C	D	-	0	(M)(O) One or more may be inoperative or missing provided: (a) Affected lavatory door is locked closed and placarded to prohibit passengers' entrance, and (b) Affected lavatory is used only by crew members. **Procedures** (M) to provide instructions to lock closed and placard affected lavatory door. (O) to provide procedures to brief crew members.
25-40-1D	D	-	0	One or more may be inoperative or missing provided flight is non-smoking.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-40-2 Interior Lavatory Ashtrays (MC)				
25-40-2A	B	-	0	One or more may be inoperative or missing provided associated lavatory fire-extinguishing system, when installed, is operative.
25-40-2B	D	-	0	(M)(O) One or more may be inoperative or missing provided: (a) The affected lavatory door is locked closed and placarded to prohibit passengers' entrance, and (b) The affected lavatory is used only by crew members. **Procedures** (M) to provide instructions to lock closed and placard affected lavatory door. (O) to provide procedures to brief crew members.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-1 Escape Slides				
25-60-1A	-	-	-	One may be inoperative or missing on each deck provided the associated door/exit is considered inoperative. Refer to item 52-22-xx. Note: Refer to item 25-60-5 when escape slide is used as raft.

Additional considerations:

Additional maintenance task may be required depending on the failure modes intended to be covered under this entry (e.g. slide arming circuit deactivation).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-2	**Independent portable lights (MC)**				
25-60-2A		C	-	-	May be inoperative or missing provided each required crew member has an operative independent portable light readily available when seated at designated station.
25-60-2B	(Helicopters and Aeroplanes for other than commercial air transport operations)	D	-	-	May be inoperative or missing for daylight operations under VFR.

Additional considerations:

In compliance with CS 25/29.1411(a) and (b), an additional operational procedure may be required for entry 25-60-2A (e.g. holders) so as to ensure that required crew members are aware of the electric torch/flashlight change in terms of its location and/or alternate stowage provisions.

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-3 Protective Breathing Equipment (PBE) **(MC)**				
25-60-3A	D		-	(M) (O) Any in excess of those required may be inoperative or missing provided: (a) Required distribution is maintained, (b) Inoperative PBE and its installed location are placarded inoperative, (c) Inoperative PBE unit is secured out of sight in an approved stowage, and (d) Procedures are established and used to alert crew members of inoperative or missing equipment. Note: Inoperative PBE units may be subject to dangerous goods requirements. **Procedures:** (M) To provide instructions to placard the inoperative PBE unit and its installed location, to secure the PBE unit in an approved stowage. (O) To provide procedures to alert crew members.

Additional considerations:

According to air operations rules for Commercial Air Transport (CAT.IDE.A.245), the number of required portable PBE may vary depending on whether the aeroplane is operated with a flight crew of more than one and a cabin crew member or not.

For helicopters, if one or more cargo or baggage compartments are to be accessible in flight, protective breathing equipment must be available for an appropriate crew member without leaving their seat.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-4	**Megaphones (MC)**				
25-60-4A		D	-	-	(M) (O) Any in excess of those required may be inoperative or missing provided: (a) Required distribution is maintained, (b) Inoperative megaphone and its installed location are placarded inoperative, (c) Inoperative megaphone is secured out of sight, and (d) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (M) To provide instructions to placard the inoperative megaphone and its installed location, and to secure the megaphone in an out of sight location. (O) To provide procedures to alert crew members.
25-60-4B	(Other than commercial air transport operations and cargo-only operations)	D	-	0	May be inoperative.

Additional considerations:

The number of required megaphones in the passenger compartment is depending upon the seating capacity of the aircraft.

Depending upon design, for cargo-only operations, additional limitation may be required in case of crew members/cargo attendants carried (e.g. to call them back from the cargo areas during an emergency).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-5 Life rafts (MC)				Note: For life raft used as slide, refer to 25-60-1.
25-60-5A	D	-	-	(O) May be inoperative or missing provided: (a) Extended overwater flights are not conducted, and (b) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (O) To provide procedures to alert crew members.
25-60-5B	C	-	-	(O) (M) Any in excess of those required for the intended flight may be inoperative or missing for extended overwater flights provided: (a) Required distribution is maintained, (b) Inoperative life raft and its installed location are placarded inoperative, (c) When practical, the inoperative life raft is secured out of sight, and (d) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (M) To provide instructions to placard the inoperative life raft and its installed location and to secure life raft in an out of sight location. (O) to provide procedures to alert crew members.

Additional considerations:

Criteria to define extended overwater operations are available in CAT.IDE.A.285 and CAT.IDE.H.300.

This guidance may be adapted when dispatch conditions are not practical because of considerations related to the type of aircraft.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-60-6	**Survival Equipment (MC)**				Note: For ELT(S), refer to item 25-63-3.
25-60-6A		D	-	-	(O)(M) Any in excess of those required may be missing or inoperative provided: (a) Inoperative equipment and its installed location are placarded inoperative, and (b) Inoperative equipment is secured out of sight, and (c) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (M) To provide instructions to placard the inoperative equipment and its installed location and to secure the inoperative equipment in an out of sight location. (O) To provide procedures to alert crew members.

Additional considerations:

An additional condition with associated (O) is proposed to ensure proper crew handovers and preclude any confusion in an emergency situation.

Aircraft applicability: Helicopters

ATA Chapter: 25 Equipment/Furnishings						
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
25-60-7	**Emergency Flotation Equipment**					
25-60-7A	(Other than commercial air transport operations)	D	-	0	Any in excess of those required may be inoperative.	
25-60-7B		D	-	0	May be inoperative for flights over land (including take-off and landing).	
25-60-7C	(Performance Class 1)	C	-	0	May be inoperative for flights over water at a distance from land not beyond 10 minutes flying time, at normal cruise speed.	
25-60-7D	(Performance Class 2)	C	-	0	May be inoperative provided: (a) Take-off and landing are not performed over water, and (b) En route operations are not conducted over water at a distance from land not beyond 10 minutes flying time, at normal cruise speed.	
25-60-7E	(Performance Class 3)	C	-	0	May be inoperative provided: (a) Take-off and landing are not performed over water, and (b) Flight is not conducted over water beyond safe forced landing distance.	

Additional considerations:

The need for additional deactivation/securing conditions should be considered, based on the design of the system.

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-61-1	**Crash Axes and Crowbars (MC)**				
25-61-1A		D	-	-	Any in excess of those required may be inoperative or missing.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-62-1	**First-Aid Kits (MC)**				
25-62-1A	(Aeroplanes)	D	-	-	Any in excess of those required may be incomplete or missing.
25-62-1B	(Aeroplanes)	A	-	-	If more than one is required, only one of the required first-aid kits may be incomplete for two calendar days.
25-62-1C	(Helicopters)	A	-	0	May be incomplete for one calendar day.
25-62-1D	(Helicopters)	D	-	1	Any in excess of one may be incomplete or missing.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-62-2	**Emergency Medical Kits (MC)**				
25-62-2A		D	-	-	Any in excess of those required may be incomplete or missing.
25-62-2B		A	-	-	The required emergency medical kits may be incomplete for flight to a destination where repairs or replacements can be made but not to exceed a maximum of two calendar days.

Additional considerations:

N/A

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-63	**Emergency Locator Transmitter (ELT)** **(MC)**				
25-63-1	Automatic Emergency Locator Transmitter ELT(AF) ELT(AP)				
25-63-1A		D	-	-	Any in excess of those required may be inoperative.
25-63-1B	(Aeroplanes)	A	1	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.
25-63-1C	(Aeroplanes)	C	-	1	Any in excess of one may be inoperative.
25-63-1D	(Helicopters)	A	-	0	May be inoperative provided: (a) The helicopter shall not fly for more than 6 hours after the ELT was found to be inoperative, and (b) A maximum of 24 hours have elapsed since the ELT was found to be inoperative.
25-63-2	Automatically Deployable Emergency Locator Transmitter ELT(AD)				
25-63-2A		D	-	-	Any in excess of those required may be inoperative.

(continued)

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				
25-63-2B	(Aeroplanes)	A	-	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.
25-63-2C	(Helicopters)	C	-	0	May be inoperative for overland operations or overwater operations at a distance from land not beyond 10 minutes flying time at normal cruise speed.
25-63-3	Survival Emergency Locator Transmitter ELT(S)				
25-63-3A		D	-	-	(M)(O) Any in excess of those required may be inoperative or missing provided: (a) Inoperative equipment and its installed location are placarded inoperative, and (b) Inoperative equipment is secured out of sight, and (c) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures** (M) To provide instructions to placard the inoperative equipment and its installed location and to secure the inoperative equipment in an out of sight location. (O) To provide procedures to alert crew members.

Additional considerations:

An Emergency Locator Transmitter (ELT) is a generic term describing equipment which broadcasts distinctive signals on designated frequencies and, depending on application, may be activated by impact or be manually activated. An ELT is one of the following:

a) Automatic Fixed (ELT(AF)). An automatically activated ELT which is permanently attached to an aircraft;

b) Automatic Portable (ELT(AP)). An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft;

c) Automatic Deployable (ELT(AD)). An ELT which is rigidly attached to the aircraft and which is automatically deployed and activated by impact and, in some cases, also by hydrostatic sensors. Manual deployment is also provided;

d) Survival ELT (ELT(S)). An ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

An ELT(S) may be activated manually or automatically (e.g. by water activation). It should be designed to be attached to a life raft or a survivor.

An automatic portable ELT (ELT(AP)) may be used to replace one ELT(S) provided that it meets the ELT(S) requirements. A water-activated ELT(S) is not an ELT(AP).]

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-64-1 Life jackets (MC)				
25-64-1A	D	-	-	(M) (O) Any in excess of those required may be inoperative or missing, provided: (a) Required distribution is maintained, (b) Inoperative lifejacket and its installed location are placarded inoperative, (c) Inoperative life jacket is secured out of sight, and (d) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (M) To provide instructions to placard the inoperative life jacket and its installed location and to secure the inoperative life jacket in an out of sight location and to placard affected seat, as applicable. (O) To provide procedures to alert crew members.

Additional considerations:

N/A

Summary of the guidance items:

Item	ATA
Lavatory Smoke Detection System	26-17-1
Hand Fire Extinguishers (MC)	26-24-1
Lavatory Waste Receptacle Fire Extinguishing System	26-25-1

Aircraft applicability: Aeroplanes

ATA Chapter: 26 Fire Protection					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
26-17-1	**Lavatory Smoke Detection System**				
26-17-1A		C	-	0	(M) (O) May be inoperative provided: (a) Lavatory waste receptacle is empty, (b) Associated lavatory door is locked closed and placarded to prohibit passengers from entering, (c) Affected lavatory is used only by crew members, and (d) Associated lavatory is not used for storage of any inflammable or combustible materials. **Procedures** (M) to provide instructions to lock closed and placard the inoperative lavatory. (O) to provide procedures to brief crew members.
26-17-1B		B	-	0	(M) (O) May be inoperative provided: (a) Lavatory waste receptacle fire-extinguishing system is verified operative, and (b) Procedures are established and used to check periodically absence of smoke in affected lavatory, and **Procedures** (M) To provide instructions to verify/test the agent bottle of the lavatory waste receptacle fire-extinguishing system. (O) To provide procedures to ensure affected lavatory is visited periodically by the cabin crew and not used for stowage of any inflammable or combustible materials. .
26-17-1C	(Aeroplanes with passenger capacity of less than 20)	C	-	0	May be inoperative.

Additional considerations:

Use of the affected lavatory by the crew members does not authorise storage of inflammable or combustible materials, such as in-flight service waste bags.

The definition of the interval for the periodic check by the crew may appear as arbitrary and this guidance does not mandate any specific interval.

It is proposed to let the operator develop its own procedure depending on the conducted operations under the control of the authority approving the MEL.

Regarding the extinguisher verification, bearing in mind the system is usually verified only through maintenance programme with a period of time between two consecutive checks exceeding the proposed rectification interval, a one-time check before the release for a B (3 days maximum) interval is judged acceptable.

Relief provided under 26-17-1C is applicable only if the installation of lavatory smoke detection system is not required by the type certification basis.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 26 Fire Protection				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
26-24-1 Hand Fire Extinguishers (MC)				
26-24-1A	D	-	-	(M) (O) Any in excess of those required may be inoperative or missing provided: (a) The inoperative hand fire extinguisher is removed from the aircraft and its installed location is placarded inoperative; or it is removed from the installed location, secured out of sight, and the hand fire extinguisher and its installed location are placarded inoperative, (b) Required distribution of operative units is maintained throughout the aircraft, and (c) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures** (M) To provide instructions to placard the inoperative hand fire extinguisher and its location and to secure hand fire extinguisher in an out of sight location. (O) To provide procedures to inform crew members.

Additional considerations:

When determining the location for storage of the inoperative units, compliance with the dangerous goods requirements must be considered.

Aircraft applicability: Aeroplanes

ATA Chapter: 26 Fire Protection						
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
26-25-1	**Lavatory Waste Receptacle Fire-Extinguishing System**					
26-25-1A		D	-	0	(M) May be inoperative provided: (a) Lavatory waste receptacle is empty, (b) Associated lavatory door is locked closed and placarded to prohibit passengers from entering, and (c) Affected lavatory is used only by crew members. **Procedures:** (M) To provide instructions to lock closed and placard the inoperative lavatory. (O) To provide procedures to brief crew members.	
26-25-1B	(Aeroplanes with passenger capacity of less than 20)	C	-	0	May be inoperative.	

Additional considerations:

The lavatory smoke detection system is not considered as an acceptable alternate means to the waste receptacle fire-extinguishing system. However, additional relief may be considered if adequate fire containment capability of the waste receptacle can be demonstrated.

Relief provided under 26-25-1B is applicable only if the installation of lavatory waste receptacle fire-extinguishing system is not required by the type certification basis.

Summary of the guidance items:

Item	ATA
Inertial Separators - Position Indicating System	30-00-1
Airframe Aerodynamic Surface Ice Protection Monitoring System	30-10-1
Engine Inlet De-icing/Anti-icing Systems Monitoring System	30-21-1
Pitot Heating Failure Indication System	30-31-2
Alternative Windshield Rain Protection Means (e.g. Rain Repellent System, Coating, etc.) (MC)	30-40-1
Windshield Heating/De-icing Indicating System	30-41-1
Windshield Wipers (MC)	30-42-1
Propeller De-ice/Anti-ice System Monitoring System	30-61-1
Visual Ice Evidence Indication	30-80-1
Ice Detection System	30-80-2

Aircraft applicability: Aeroplanes

ATA Chapter: 30 Ice and Rain Protection					
(1) System & Sequence Numbers ITEM	(2) Rectification Interval		(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-00-1 Inertial Separators — Position Indicating System					
30-00-1A	B	-	0		May be inoperative provided: (a) operations are not conducted at any time in known or forecasted icing conditions, and (b) Operations are conducted in day VMC. Note 1: Inertial separators includes pneumatic de-icing systems. Note 2: In the absence of any Aircraft Flight Manual definition, icing conditions should be taken as visible moisture or precipitation, when OAT on the ground and for takeoff, or TAT in flight is 10 °C or below

Additional considerations:

Depending upon the aircraft design, failure of the position indicating system may be compensated by crew monitoring from the flight crew compartment and appropriate wing inspection lights (or alternate means) are operative for night operations.

Condition b) on day VMC may be alleviated based on demonstration of the capability of facing inadvertent encounter of icing conditions during aircraft certification. Aircraft expected types of operation have to be taken into account with regards to the risk exposure to unexpected icing conditions (e.g. FL limitation).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-10-1	**Airframe Aerodynamic Surface Ice Protection Monitoring System**				
30-10-1A		B	-	0	One or more may be inoperative provided operations are not conducted at any time in known or forecasted icing conditions.

Additional considerations:

The above guidance covers items such as wing, vertical/horizontal stabilisers and ice protection monitoring system on airplanes. Additional relief can be granted based on the condition that the airframe aerodynamic surface ice protection system is considered inoperative, provided that such a relief is available in the MMEL. Associated dispatch conditions and rectification intervals may then become applicable.

In the absence of any Aircraft Flight Manual definition, icing conditions should be taken as visible moisture or precipitation, when the OAT is less than +5°C.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-21-1 Engine Inlet De-icing/Anti-icing System **Monitoring System**				
30-21-1A	B	-	-	May be inoperative provided operations are not conducted at any time in known or forecasted icing conditions.

Additional considerations:

Additional relief can be granted based on the condition that the engine inlet de-icing/anti-icing system is considered inoperative, provided that such a relief is available in the MMEL. Associated dispatch conditions and rectification intervals may then become applicable.

In the absence of any Aircraft Flight Manual definition, engine icing conditions should be taken as visible moisture or precipitation, when the OAT is less than +10°C.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-31-2 Pitot Heating Failure Indication System				
30-31-2A	-	-	-	May be inoperative provided the associated pitot heating system is considered inoperative.

Additional considerations:

Additional relief may be granted based on the certification basis and the applicable operational requirements.

Particular attention shall be paid to design where the failure indication system is covering multiple heaters (e.g. pitot, static, angle-of-attack, TAT/SAT). Cumulative effects should in these cases be evaluated.

Aircraft applicability: Aeroplanes

ATA Chapter: 30 Ice and Rain Protection				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-40-1 Alternative Windshield Rain Protection Means (e.g. Rain Repellent System, Coating, etc.) **(MC)**				
30-40-1A	C	-	0	May be inoperative provided: (a) No precipitation is forecasted during a period from one hour before until one hour after the estimated time of departure and arrival at the take-off and destination aerodromes, and (b) Affected system is not part of the equipment required for the intended operation. Note: Take-off and destination aerodromes include any take-off and destination alternate aerodromes required by the operational rules.
30-40-1B	D	-	0	May be inoperative provided windshield wipers are operative.

Additional considerations:

30-40-1A Condition (b) ensures that when low visibility conditions are known or forecasted, approach or take-off minima do not require their use.

This can be verified, for example, by checking the Aircraft Flight Manual for minimum required equipment for Cat II or III approaches and low visibility take-offs.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-41-1 Windshield Heating/De-icing Indicating System				
30-41-1A	C		1	(O) May be inoperative provided: (a) The indicating system associated with the pilot handling/flying station is operative, and (b) An alternate procedure is established and used to ensure correct operation of the affected windshield heating system. **Procedures** (O) To give guidance to perform a pre-flight check of the affected heating system.
30-41-1B	C	-	0	May be inoperative provided operations are not conducted into known or forecasted icing conditions.

Additional considerations:

The next failure of the heating system may be undetected. Consequently the dispatch is allowed provided that at least the indicating system on the flying pilot's side is operative. This will ensure safe operation into icing conditions.

30-41-1B This option is available only if the windshield heating system does not contribute to structural integrity.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-42-1	**Windshield Wipers (MC)**				
30-42-1A	(Aeroplanes)	C	-	0	May be inoperative provided: (a) No precipitation is forecasted at the take-off and destination aerodromes, and (b) Affected wiper is not part of the equipment required for the intended operation. Note: Take-off and destination aerodromes include any take-off and destination alternate aerodromes required by the operational rules.
30-42-1B	(Helicopters)	C	-	-	One or more may be inoperative provided the helicopter is not operated in known or forecast precipitation that requires their use.
30-42-1C		D	-	0	(O) (M) May be inoperative provided an alternative windshield rain protection mean (e.g. Rain Repellent System, Coating, etc.) is installed and verified operative. **Procedures** (O) or (M) To provide guidance to check correct operation of the system.
30-42-1-1	High Speed Function				
30-42-1-1A		C	-	0	May be inoperative provided the associated low speed function is operative.
30-42-1-2	Low Speed Function				
30-42-1-2A		C	-	0	May be inoperative provided the associated high speed function is operative.

(continued)

ATA Chapter: 30 Ice and Rain Protection

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				
30-42-1-3	Other Control Function (e.g. Park, Intermittent, etc.)				
30-42-1-3A		C	-	0	One or more may be inoperative provided: (a) It does not affect operation of the wipers, and (b) It is acceptable to the affected flight crew member(s).

Additional considerations:

30-42-1A Condition (b) ensures that when low visibility conditions are known or forecasted, approach or take-off minima do not require their use.

This can be verified, for example, by checking the Aircraft Flight Manual for minimum required equipment for Cat II or III approaches and low visibility take-offs.

30-42-1B accounts for the specific helicopters mission profile (hover capability).

30-42-1C allows dispatch with windshield wipers inoperative when an equivalent system is installed (rain repellent, etc.) provided it has been demonstrated as efficient as the wipers in the certified kind of operations (low speed, light rain, etc.)

30-42-1-1:

It is assumed in this guidance that the efficiency of wipers under low speed is adequate for all kind of precipitations.

Aircraft applicability: Aeroplanes

ATA Chapter: 30 Ice and Rain Protection					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-61-1	**Propeller De-ice/Anti-ice System Monitoring System**				
30-61-1A		B	-	0	One or more may be inoperative provided operations are not conducted at any time in known or forecasted icing conditions.

Additional considerations:

Additional relief can be granted based on the condition that the propeller de-ice/anti-ice system is considered inoperative, provided that such a relief is available in the MMEL. Associated dispatch conditions and rectification interval may then become applicable.

In the absence of any Aircraft Flight Manual definition, engine icing conditions should be taken as visible moisture or precipitation when the OAT is less than +10°C.

Aircraft applicability: Aeroplanes

ATA Chapter: 30 Ice and Rain Protection					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-80-1	**Visual Ice Evidence Indication**				
30-80-1A		B	-	0	May be inoperative provided operations are not conducted in known or forecasted icing conditions.
30-80-1B		D	-	0	May be inoperative provided procedures are not dependent upon its use.
30-80-1-1	Visual Ice Evidence Indication Lighting system				
30-80-1-1A		D	-	0	May be inoperative for daylight operations provided procedures are not dependent upon its use.
30-80-1-1B		B	-	0	(O) May be inoperative for night operations provided an alternate means is used to illuminate the affected indicator. **Procedures** (O) An alternate means can be that a portable lamp/light of adequate capacity for wing and/or control surface inspection is available for night operations in icing conditions.

Additional considerations:

30-80-1A: In the absence of any Aircraft Flight Manual definition, icing conditions should be taken as visible moisture or precipitation when the OAT is less than +5°C.

30-80-1B entry applies to systems which are not used as a mean to monitor the ice accretion.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 30 Ice and Rain Protection					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30-80-2	**Ice Detection System**				
30-80-1A	System certified as an Advisory System	D	-	0	May be inoperative provided procedures do not require its use.
30-80-1B	System certified as a Primary Detection System	C	-	0	(O) May be inoperative provided alternate procedures are established and used. **Procedures:** (O) To provide a procedure to the crew to determine conditions where ice protection system must be activated manually.

Additional considerations:

Advisory detection system on which procedures are based may obtain relief in accordance with the guidance for primary detection system.

Definitions of primary and advisory detection system are provided as follows:
Beside the pilot's appraisal of actual ice built-up (on wiper blades, window frames or propeller spinner), some aeroplanes use in-flight ice detection systems (IIDS). IIDS may either directly detect the presence of ice on the aeroplane surface or detect that the aeroplane is in icing conditions. There are basically two classes of IIDS:

1. The advisory IIDS which trigger a signal in the flight crew compartment. The flight crew is responsible for monitoring the icing conditions or the ice accretion as defined in the Aircraft Flight Manual and activation by the pilot of the ice protection systems remains a requirement.
2. The primary IIDS which is the prime means used to determine when the ice protection systems should be activated. The ice protection systems may be automatically or manually activated.

Considerations for aircraft certified for 'limited' icing conditions have to be taken into account and may result in a different level of relief.

For helicopters, with an optional ice protection/detection system installed for operations into ice conditions, a D rectification interval may be accepted provided that operations are not conducted into known or forecast icing conditions.

Summary of the guidance items:

Item	ATA
Clock (MC)	31-21-1
Flight Data Recorder (FDR) (MC)	31-31-1
Flight Data and Cockpit Voice Combination recorder (MC)	31-31-2
Quick Access Recorder (or any equivalent Flight Data Monitoring equipment) (MC)	31-31-3
Flight Data Recorder (FDR) Required Parameters (MC)	31-31-4

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 31 Indicating/Recording Systems				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-21-1 Clock (MC)				
31-21-1A	C	-	0	May be inoperative provided an accurate timepiece is operative in the flight crew compartment indicating the time in hours, minutes and seconds.

Additional considerations:

The above is applicable only to those aircraft where the clock has no implication on other equipment, e.g. FDR; otherwise the effects on such other systems must be considered.

If the above is verified and on the basis that the timepiece required does not need to be approved, an accurate pilot's wristwatch which indicates hours, minutes and seconds would be acceptable.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 31 Indicating/Recording Systems

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-31-1	**Flight Data Recorder (FDR)** **(MC)**				
31-31-1A		D	-	-	Any in excess of those required may be inoperative provided the FDR parameters are not required for monitoring purpose.
31-31-1B		A	-	0	May be inoperative provided: (a) The aircraft does not exceed 8 further consecutive flights with the FDR inoperative, and (b) A maximum of 72 hours have elapsed since the FDR was found to be inoperative, and (c) Any Cockpit Voice Recorder required to be carried is operative. Note 1: This alleviation is not applicable to flight data and cockpit voice combination recorders . For those combined systems, see the entries for flight data and cockpit voice combination recorders in item 31-31-3. Note 2: The flight data recorder is considered to be inoperative when any of the following conditions exist: (i) Loss of the flight recording function is evident to the flight crew during the pre-flight check, e.g. by means of a system status monitor; or (ii) The need for maintenance has been identified by the system monitors, where available, and the failure origin has not been identified; or (iii) Analyses of recorded data or maintenance actions have shown that more than 5 % of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft, are not being recorded properly (refer to 31-31-1C).

(continued)

ATA Chapter: 31 Indicating/Recording Systems

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				Note 3: Where improper recording affects 5 % of the required parameters or less, refer to item 31-31-4.
31-31-2A	A	-	0	Up to 5 % of the required parameters may be inoperative for a maximum of 90 calendar days or until the next maintenance inspection, whichever occurs first.

Additional considerations:

Cockpit voice recorder is covered under item 23-71-1.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 31 Indicating/Recording Systems

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-31-2 Flight Data and Cockpit Voice Combination Recorder (MC)				
31-31-2A	D	-	-	(O) (M) Any function may be inoperative provided: (a) The affected function is not required, and (b) The affected data is not required for monitoring purposes.
31-31-2B	A	1	0	Flight data recorder and/or cockpit voice recorder function may be inoperative provided: (a) The other function, where required, is operative, (b) The aircraft does not exceed 8 further consecutive flights with the inoperative function, and (c) A maximum of 72 hours have elapsed since the inoperative function was found. Note 1: A flight data and cockpit voice combination recorder is a single flight recorder that combines the functions of flight data recorder and of a cockpit voice recorder.
(continued)				

ATA Chapter: 31 Indicating/Recording Systems

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				Note 2: The flight data recorder is considered to be inoperative when any of the following conditions exist: (i) Loss of the flight recording function is evident to the flight crew during the pre-flight check, e.g. by means of a system status monitor; or (ii) The need for maintenance has been identified by the system monitors, where available, and the failure origin has not been identified; or (iii) Analyses of recorded data or maintenance actions have shown that more than 5 % of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft are not being recorded properly. Note 3: Where improper recording affects 5 % of the required parameters or less, refer to item 31-31-4.
31-31-2C	A	2	1	One of the two required flight data and cockpit voice combination recorders may be inoperative for a maximum of 10 calendar days.

Additional considerations:

Cockpit voice recorder is covered under item 23-71-1.

Aircraft applicability: Aeroplanes

ATA Chapter: 31 Indicating/Recording Systems				
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-31-3	**Quick Access Recorder (QAR)** **(or any equivalent Flight Data Monitoring equipment)** **(MC)**				
31-31-3A		C	1	0	(O)(M) May be inoperative when used for Flight Data Monitoring (FDM) purposes, provided approved alternate procedures, if appropriate to other programmes using associated data, are established and used. **Procedures** (O) or (M) To provide guidance for alternate procedures associated to data monitoring programmes, as applicable.
31-31-3B		D	1	0	May be inoperative provided procedures do not require its use.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 31 Indicating/Recording Systems					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-31-4	**Flight Data Recorder (FDR) Required Parameters** **(MC)**				
31-31-4A		A	-	-	Up to 5 % of the required parameters may be inoperative for a maximum of 90 calendar days or until the next maintenance inspection, whichever occurs first.

Additional considerations:

This item applies whenever the FDR is not considered inoperative in accordance with item 31-31-1B or 31-31-2B but some required parameters have been discovered inoperative.

Summary of the guidance items:

Item	ATA
Flight Crew Compartment Lighting	33-10-1
Passenger Compartment Lighting	33-20-1
Cabin Signs ('Fasten Seat Belt', 'No Smoking' Signs, Return to Cabin, NO PED)	33-20-2
Navigation/Position Lights	33-41-1
Anti-Collision Light System	33-42-1
Wing illumination lights	33-43-1
Landing Lights	33-44-1
Cabin Emergency Lighting (Aeroplanes)	33-50-1
Cabin Emergency Lighting (Helicopters)	33-50-1
Exterior Emergency Lighting Systems	33-50-2

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 33 Lights						
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
33-10-1	**Flight Crew Compartment Lighting**					
33-10-1A		C	-	0	May be inoperative for daylight operations.	
33-10-1B		C	-	-	Individual lights may be inoperative provided: (a) Sufficient lighting is operative to make each required instrument, control, and other device for which it is provided easily readable, (b) Sufficient flight crew compartment emergency lighting is operative, and (c) Lighting configuration at dispatch is acceptable to the flight crew.	
33-10-1C		C	-	-	Co-pilot's station instrument lights may be inoperative for single pilot operations, provided no co-pilot's station instrument is required to be used by the pilot.	
33-10-1D	(Helicopters and other than CAT Aeroplanes operations)	C	-	0	May be inoperative for daylight operations under VFR.	

Additional considerations:

Based on the aircraft flight crew compartment emergency lighting configuration, condition (b) under 33-20-1B has to be clarified to indicate the lights that remain supplied under emergency power supply (e.g. DOME light, etc.).

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-20-1	**Passenger Compartment Lighting**				
33-20-1A		D	-	0	May be inoperative provided passengers are not carried.
33-20-1B	(Aeroplanes)	C	-	-	Individual lights may be inoperative provided: (a) Lighting is acceptable for the crew located in the cabin to perform their required duties, and (b) Inoperative lights are not part of the cabin emergency lighting.
33-20-1B	(Helicopters)	C	-	-	Individual lights may be inoperative provided: (a) Inoperative lights do not exceed 50 % of the total installed, (b) Lighting is acceptable for the crew located in the cabin to perform their required duties, and (c) Inoperative lights are not part of the cabin emergency lighting.
33-20-1C	(Helicopters)	D	-	0	May be inoperative for daylight operations.

Additional considerations:

If the cabin illumination is used to charge floor mounted emergency photoluminescent lighting system, additional conditions on a minimum of lighting to be provided may be required.

Some lights installed on the aircraft may be part of the cabin emergency lighting equipment. In this case, relief cannot be granted in the MMEL beyond the minimum required configuration.

For cargo and non-passenger carrying operations there must be sufficient lighting for the inspection of cargo for the verification of cargo restraint or for firefighting purposes.

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-20-2	**Cabin Signs ('Fasten Seat Belt', 'No Smoking' Signs, Return to Cabin, NO PED)**				
33-20-2A		C	-	-	(M)/(O) One or more may be inoperative provided affected passenger seats, crew member seats or lavatories from which at least one cabin sign is not readily legible are blocked and placarded 'DO NOT OCCUPY'. **Procedures:** (M)/(O) to give guidance reference for a practical mean of prohibiting the use of the affected seat. (O) To alert the crew about affected seats/lavatories.
33-20-2B		C	-	-	(O) One or more may be inoperative and the affected passenger seats, crew member seats or lavatories may be occupied provided: (a) The passenger address system is operative and can be clearly heard throughout the cabin during flight, and (b) A procedure is used to notify passengers as appropriate. **Procedures:** (O) To provide the alternate procedure to crew located in the cabin to notify passengers and crew members when using crew rest facility – bunk, as applicable.
33-20-2C		C	-	-	May be inoperative provided passengers are not carried.
	(continued)				

ATA Chapter: 33 Lights

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
33-20-2-1	Aural Tone Function	C	-	0	(O) May be inoperative provided a procedure is established and used to verify that visual indications are taken into account by passengers.
33-20-2-2	Automatic Function	C	-	0	(O) May be inoperative provided: (a) Manual control function is operative, and (b) An alternate procedure is established and used.

Additional considerations:

The requirement of condition 33-20-2B (a) may not apply to aircraft which are not required to install a passenger address system.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-41-1	**Navigation/Position Lights**				
33-41-1A		C	-	0	One or more may be inoperative for daylight operations.
33-41-1B		C	-	-	Any in excess of those required may be inoperative for night operations.
33-41-1C	(Helicopters)	A	-	-	(O) One or more may be inoperative for a single night flight when departing from an offshore or remote installation provided: (a) The appropriate Air Navigation Service Provider (ANSP) has been informed before departure, (b) The anti-collision light system is operative, and (c) The landing light system is operative. **Procedures:** (O) To provide guidance to the crew for operations of anti-collision and landing lights.

Additional considerations:

For the purpose of compliance with 33-41-1B for night operations, all except the following minimum may be inoperative:

— One stationary red forward/wing tip light,

— One stationary green forward/wing tip light, and

— One stationary white light on the tail or on each wing tip.

A light composed of more than one bulb or LED, may be partially degraded, but still considered operative for the purpose of the associated requirement, provided that the degraded configuration has been demonstrated acceptable to meet the requirements.

ATA Chapter: 33 Lights

(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-42-1	**Anti-Collision Light System**				Note: This guidance may be subject to additional restrictions in accordance with the applicable Rules of the Air.
33-42-1-1	Fuselage Lights (Beacon or Strobe Type)				Note: If the fuselage anti-collision light is inoperative, alternate procedures are established and used when the aircraft is on the ground with engine(s) running.
33-42-1-1A	(Aeroplanes)	C	-	1	(O) Either the upper or the lower fuselage lights may be inoperative provided an acceptable number of white wing-tip strobe lights are operative. **Procedures:** (O) to provide guidance to the crew for operations of anti-collision and strobe lights.
33-42-1-1B	(Aeroplanes)	C	-	0	(O) May be inoperative for daylight operations provided all white wing-tip strobe lights are operative. **Procedures:** (O) To provide guidance to the crew for operations of anti-collision and strobe lights.
33-42-1-1C	(Helicopters)	C	-	1	Any in excess of one may be inoperative.
33-42-1-1D	(Helicopters)	A	-	0	(O) One or more may be inoperative for a single night flight when departing from an offshore or remote installation provided: (a) The appropriate Air Navigation Service Provider (ANSP) has been informed before departure,

(continued)

ATA Chapter: 33 Lights

(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					(b) The navigation light system is operative, and (c) The landing light system is operative. **Procedures:** (O) To provide guidance to the crew for operations of remaining lights.
33-42-1-1E	(Helicopters and other than Commercial Air Transport operations of aeroplanes)	B	-	0	May be inoperative for daylight operations.
33-42-1-2	Wing-Tip/Tail Strobe Lights (if installed)				
33-41-1-2A		C	-	0	One or more may be inoperative.

Additional considerations:

An anti-collision light system is required for Commercial Air Transport (Part-CAT) operations and for other than Commercial Air Transport (Part-NCC) operations under night VFR or IFR.

Additional airspace requirements may apply.

A light composed of more than one bulb or LED, may be partially degraded, but still considered operative for the purpose of the associated requirement, provided that the degraded configuration has been demonstrated acceptable to meet the requirements.

33-42-1-1A:

The acceptable number of white strobe lights has to be defined by the applicant according to the requirements applicable for anti-collision light system.

Aircraft applicability: Aeroplanes

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-43-1	**Wing Illumination Light**				
33-43-1A		D	-	0	One or more may be inoperative for daylight operations.
33-43-1B		C	-	0	One or more may be inoperative provided operations are not conducted at any time into known or forecast icing conditions.
33-43-1C		B	-	0	(O) One or more may be inoperative provided a portable lamp/light of adequate capacity for wing and/or control surface inspection is available and used for night operations in icing conditions. **Procedures** (O) To provide crew procedures in accordance with the above conditions.
33-43-1D		C	-	0	One or more may be inoperative provided ground de-icing procedures do not require their use.

Additional considerations:

Further relief might be granted when the wing illumination lights are not required to ensure ice accretion monitoring (flight/ground).

33-43-1D: For passenger and cargo aeroplanes where view of the wing surfaces from the flight crew compartment is restricted (due to the sweep of the aircraft wing) or for cargo aircraft where access to the aircraft cabin to view ice formation on the wings is not possible, the wing illumination lights may be inoperative provided ground deicing procedures do not require their use.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-44-1	**Landing Lights**				
33-44-1A	(Aeroplanes)	B	-	-	50 % of landing lights may be inoperative for night operations.
33-44-1B		C	-	0	One or more may be inoperative for daylight operations.
33-44-1C	(Helicopters)	C	-	1	(O) Any in excess of one adjustable landing light may be inoperative for night operations. **Procedures:** (O) To provide guidance to the crew for operations of remaining lights

Additional considerations:

The above guidance does not cover the landing light extension/retraction system. Alternate dispatch conditions may be proposed based on the use of Taxi lights, if adequate for the purpose.

A light composed of more than one bulb or LED, may be partially degraded, but still considered operative for the purpose of the associated requirement, provided that the degraded configuration has been demonstrated acceptable to meet the requirements.

Aircraft applicability: Aeroplanes

ATA Chapter: 33 Lights

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-50-1	**Cabin Emergency Lighting**				
33-50-1-1	Overhead Emergency Lighting (each aisle)				
33-50-1-1A		B	-	-	A maximum of one in four consecutive overhead emergency lights (or light assemblies) may be inoperative. Note: For aeroplanes which have two rows of lights per aisle (i.e. mounted on the overhead bins), then the above alleviation is acceptable for each row of lights but the inoperative lights must not be directly opposite each other.
33-50-1-2	EXIT Marking Signs				
33-50-1-2A		C	-	-	Up to 50 % of the bulbs/LEDs may be inoperative in one or more signs provided the sign remains legible.
33-50-1-2B		-	-	-	One may be inoperative provided the associated door/exit is considered inoperative. Refer to item 52-22. Note: If any twin overwing exits are served by a single sign, both exits should be considered inoperative.
33-50-1-3	EXIT Locator Signs				
33-50-1-3A		C	-	-	Up to 50 % of the bulbs/LEDs may be inoperative in one or more signs provided the sign remains legible.

(continued)

ATA Chapter: 33 Lights

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
33-50-1-3	Exit Area Lighting				
33-50-1-3A		-	-	-	May be inoperative provided the associated door/exit is considered inoperative. Refer to item 52-22.
33-50-1-4	Floor Proximity Lighting (Electrical or photo luminescent systems)				
33-50-1-4-1	Individual Lights/ strips				
33-50-1-4-1A		B	-	-	Lights/strips may be inoperative provided: (a) All lights/strips marking right angle intersection, including cross aisles and overwing exits, are operative, (b) Along each aisle axis, all lights/strips within one meter of lights/strips marking right angle intersections are operative, and (c) A minimum of lights/strips evenly distributed along each aisle axis to provide required escape guidance are operative.
33-50-1-4-2	EXIT Markers/Identifiers				
33-50-1-4-2A		C	-	-	Up to 50 % of the bulbs/LEDs may be inoperative in one or more signs provided the sign remains legible.
33-50-1-4-2B		-	-	-	One may be inoperative provided the associated door/exit is considered inoperative. Refer to item 52-22.

Additional considerations:

The proposed guidance is provided as examples of relief generally accepted in MMELs and should be validated on particular cabin design configuration. Different levels of relief may be validated through test showing compliance to requirements even in a degraded configuration. Such relief could then be granted 'C' interval relief.

Item 33-50-1-2 Cabin Emergency Lighting - EXIT Marking Sign covers those lights required by CS 25.811 (d)(2).

Item 33-50-1-3 Cabin Emergency Lighting - EXIT locator Sign covers those lights required by CS 25.811 (d)(1) and (d)(3).

Item 33-50-1-4-1 Floor Proximity Lighting (Electrical or photoluminescent systems) - Individual Lights/ strips option 33-50-1-4-1A condition (b) & (c) are example proposals that require validation based on the specific system design and installation. The objective is to ensure the minimum certification requirements in terms of escape guidance are still complied with. If demonstrated by adequate substantiations, a rectification interval C could be granted.

Item 33-50-1-4-2 Floor Proximity Lighting (Electrical seat mounted or photo luminescent floor mounted systems) EXIT Markers/Identifiers covers those lights required by CS 25.812 (e)(2) and (d)(3).

Aircraft applicability: Helicopters

ATA Chapter: 33 Lights

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-50-1	**Cabin Emergency Lighting**				
33-50-1-1	Cabin Emergency Lighting System	-	-	-	May be inoperative provided it is in accordance with the arrangements agreed with the national authority.
33-50-1-2	EXIS Lighting				
33-50-1-2A		B	-	0	May be inoperative for flights over land or for flights over water at a distance from land not beyond 10 minutes flying time at normal cruise speed.
33-50-1-2-1	EXIS 1 Standard Length (24 LEDs)				
33-50-1-2-1A		B	-	0	A maximum of 3 LEDs may be inoperative with no more than 2 adjacent inoperative LEDs.
33-50-1-2-2	EXIS 1 Half Length (12 LEDs)				
33-50-1-2-2A		B	-	0	A maximum of 1 LED may be inoperative.
33-50-1-2-3	EXIS 1 One Third Length (8 LEDs)				
33-50-1-2-3A		B	-	0	A maximum of 1 LED may be inoperative.
33-50-1-2-4	EXIS II				
33-50-1-2-4A		B	-	0	A maximum of 2 LEDs per corner strip, one in each arm, may be inoperative.

(continued)

ATA Chapter: 33 Lights

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
33-50-1-2-5	EXIS III				
33-50-1-2-5A		B	-	0	A maximum of 4 LEDs per light assembly may be inoperative; no more than 1 LED is inoperative per band along any side.
33-50-1-3	Helicopter Emergency Egress Lighting System (HEELS)				
33-50-1-3A		B	-	0	May be inoperative for flights over land or for flights over water at a distance from land not beyond 10 minutes flying time at normal cruise speed.
33-50-1-3B		A	-	-	One element on each side of the passenger compartment and/or cockpit may be inoperative for 3 calendar days.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes

ATA Chapter: 33 Lights					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33-50-2	**Exterior Emergency Lighting Systems**				
33-50-2A		B	-	0	One or more may be inoperative for daylight operations.
33-50-2-1	Escape Slide Lighting				
33-50-2-1A		B	-	0	One or more may be inoperative for daylight operations.
33-50-2-1B		-	-	-	One may be inoperative for night operations provided the associated door/exit is considered inoperative. Refer to item 52-22-1.
33-50-2-2	Overwing Escape Route Lighting				
33-50-2-2A		B	-	0	One or more may be inoperative for daylight operations.
33-50-2-2B		-	-	-	One may be inoperative for night operations provided the associated door/exit is considered inoperative. Refer to item 52-22.

Additional considerations:

N/A

FLIGHT INSTRUMENTS

Summary of the guidance items:

Item	ATA
Primary Airspeed Indication	34-10-1
Primary Altitude Indication	34-10-2
Turn and Slip Indicator /Turn Co-ordinators (if installed)	34-10-3
Vertical Speed Indicator	34-10-4
OAT Indicator	34-10-5
Radio Altimeter with an Audio Voice Warning (or equivalent)	34-15-2
Stabilised direction Indication	34-20-1
Magnetic/Standby Compass	34-22-1
Primary Attitude Indication	34-20-2
Standby Attitude Indication	34-20-3

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-10-1	**Primary Airspeed Indication**				Note: Standby airspeed indication is not considered as a primary airspeed indication by this guidance.
34-10-1A	(Aeroplanes)	B	-	-	(O) May be inoperative provided: (a) A primary independent airspeed indication is available at each required pilot's station, and (b) Procedures are established and used to cover the loss of primary airspeed indication in-flight. **Procedures:** (O) To provide guidance to the crew for monitoring of erroneous indication and to ensure safe flight in case of the failure in-flight of a primary indication. Note: The procedure can be based on the use of a secondary (standby) airspeed indication, if installed.
34-10-1B	(Helicopters)	D	-	-	(O) May be inoperative provided: (a) A primary independent airspeed indication is available at each required pilot's station, and (b) Procedures are established and used to cover the loss of primary airspeed indication in-flight.
	(continued)				

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				**Procedures:** (O) To provide guidance to the crew for monitoring of erroneous indication and to ensure safe flight in case of the failure in-flight of a primary indication. Note: The procedure can be based on the use of a secondary (standby) airspeed indication, if installed.
34-10-1C (Helicopters)	B	-	1	(O) Any in excess of one may be inoperative provided: (a) The primary airspeed indication is available at the handling pilot's side, (b) Flight is conducted by day under VFR, (c) Operations are not conducted over water, and (d) Procedures are established and used to cover the loss of a primary airspeed indication in-flight. **Procedures:** (O) To provide guidance to the flight crew to ensure safe flight in case of the failure in-flight of a primary indication. Note: The procedure can be based on the use of a secondary (standby) airspeed indication, if installed.

Additional considerations:

The intent of this guidance is to ensure that the remaining indication essential to the safety of flight still satisfies the applicable requirements.

Applicable requirements are defined as both the airworthiness standards under which the aircraft was certificated and the operating rules under which it is operated.

Relief can therefore be granted for an indication that is provided in excess of the applicable requirements. This may be achieved by the introduction of dispatch conditions to prevent certain kind of operations (e.g. IFR, dual pilot operations).
To comply with the applicable requirements, acceptable means other than duplication of instruments/indicators can be foreseen to ensure that sufficient information is available (e.g. switching of sources, speed tapes, etc.).

Consequently the guidance refers to primary indication rather than indicators or instruments. Additional clarification may be provided at the level of the aircraft type MMEL.

Compliance with airworthiness requirements may lead to the installation of secondary (standby) attitude indication.

The above guidance item does not cover such standby airspeed indication. If a standby airspeed indication is required to comply with airworthiness requirements for certification of the aircraft, (e.g. CS-23 with EFIS, CS-25, etc.), no relief can be given unless an acceptable level of safety is demonstrated, on a case-by-case basis, in accordance with CS-MMEL.

34-10-1A:

For aircraft fitted with EFIS, the airspeed indicator displays (tape) are considered as the primary airspeed indication and are therefore required at each required pilot station.

For single pilot operations, if credit has been taken during the certification, on the availability of the off side primary airspeed indication in order to meet applicable requirements, this may result in additional restrictions.

34-10-1B:

Same as 34-10-1A, except for the rectification interval.

34-10-1C:

The airspeed indication is less critical for the helicopters to ensure a safe landing further to the loss of airspeed under day VFR overland operations.

Dispatch is authorised with one primary airspeed indication left.

VFR condition allows departure from field under IMC under special VFR procedures.

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-10-2	**Primary Altitude Indication**				Note: A secondary/standby altitude indication is not considered as a primary altitude indication.
34-10-2A	(Aeroplanes) (Other than commercial air transport operations)	C	-	-	May be inoperative provided: (a) Flight is conducted under VFR, and (b) An altitude indication is available at each required pilot's station. Note: For single pilot operations, a secondary/standby or off-side indication may satisfy condition (b), if visibility requirements are met.
34-10-2B	(Aeroplanes)	B	-	-	May be inoperative provided: (a) Flight is conducted under VFR, (b) An independent altitude indication is available at each required pilot's station, and (c) An additional independent altitude indication is operative for single pilot operations. Note: For single pilot operations, a secondary/standby or off-side indication may satisfy condition (b) or (c), if visibility requirements are met.
34-10-2C	(Aeroplanes) (continued)	B	-	1	May be inoperative provided: (a) Flight is conducted under VMC in sight of the surface, and (b) A primary altitude indication is available on pilot flying's side.

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
34-10-2D (Helicopters)	C	-	1	May be inoperative provided: (a) A primary altitude indication is available at the handling pilot's side, and (b) Operations are conducted under day VFR over routes navigated by reference to visual landmarks.
34-10-2E (Helicopters)	C	-	1	May be inoperative provided: (a) A primary altitude indication is available at handling pilot's station, and (b) Alternate independent altitude or height indication is operative, Note: A secondary/standby altitude indication or radio altimeter indication may satisfy condition (b) if visibility requirements are met.

Additional considerations:

Primary Altitude indication should normally be a sensitive pressure altitude indication.

Aircraft applicability: Aeroplanes & Helicopters

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-10-3	**Turn and Slip Indicator/Turn Co-ordinators** (if installed)				
34-10-3-1	**Turn Indication**				
34-10-3-1A	(Aeroplanes)	B	-	0	May be inoperative for single pilot operations provided operations are conducted under day VMC.
34-10-3-1B	(Aeroplanes & Helicopters)	C	-	0	May be inoperative for single pilot operations provided standby attitude indication is operative.
34-10-3-1C	(Aeroplanes & Helicopters)	B	-	0	May be inoperative provided three independent attitude indications are operative
34-10-3-1D	(Aeroplanes)	C	-	1	May be inoperative provided: (a) The operative turn indication is on the pilot-in-command station, and (b) Primary attitude indications are operative at required pilot's station.
34-10-3-1E	(Aeroplanes)	B	-	1	May be inoperative provided: (a) Operations are conducted under day VMC, and (b) Primary attitude indications are operative at required pilot's station.
34-10-3-2	Slip/Skid Indication				
34-10-3-2A	(Aeroplanes & Helicopters)	C	-	1	Any in excess of one may be inoperative provided the operative slip/skid indication is on the pilot's-in-command station.
	(continued)				

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
34-10-3-2A (Helicopters)	B	-	0	May be inoperative provided: (a) Operations are conducted under VFR over routes navigated by reference to visual landmarks, and (b) Operations are not conducted over water.

Additional considerations:

Turn indication entry may apply to equivalent indication displayed as part of an integrated system.

Aircraft applicability: Aeroplanes & Helicopters

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-10-4	**Vertical Speed Indication (VSI)**				
34-10-4A	(Aeroplanes)	C	-	1	Any in excess of one may be inoperative provided the operative VSI is on the pilot's -in-command side.
34-10-4B	(Aeroplanes)	C	-	1	Any in excess of one may be inoperative for operations under day VMC provided procedures do not require = its use.
34-10-4C	(Helicopters)	C	-	1	Any in excess of one may be inoperative provided the operative VSI is on the pilot's -in-command side.
34-10-4D	(Helicopters)	B	-	0	May be inoperative for operations under day VFR over routes navigated by reference to visual landmarks.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-10-5 OAT Indicator				
34-10-5A	C	-	0	(O) May be inoperative provided another air temperature indication is operative that is convertible to OAT. **Procedures:** (O) To provide guidance to the crew to convert the alternate temperature indication in OAT, as required.

Additional considerations:

Further relief might be granted for non-commercial operations, short -range flights or when the OAT indicator is not required by the certification basis (e.g. CS-27).

Aircraft applicability: Aeroplanes

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-15-1	**Altitude Alerting System**				
34-15-1A		B	-	0	(O) May be inoperative provided: (a) An autopilot with an altitude hold is operative, (b) Alternate procedures are established and used, and (c) The altitude alerting system is not part of the equipment required for the intended operation. **Procedures** (O) To provide alternate operational procedures to the flight crew, if applicable. (O) To specify any applicable restriction for operations requiring a specific approval.

Additional considerations:

RVSM restrictions may apply. One altitude alerting system is required to be operative for RVSM operations.

Rectification interval C may be considered for other than turbo-jet aeroplanes. These aircraft may not have an autopilot installed in which case the autopilot would not be a condition of relief.

Aircraft applicability: Helicopters

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-15-2	**Radio Altimeter with an Audio Voice Warning** **(or equivalent)**				
34-15-2A		A	-	0	(O) May be inoperative provided: (a) No more than 6 hours shall be flown over water since the radio altimeter was found to be inoperative, (b) A maximum of 24 hours have elapsed since the radio altimeter was found to be inoperative, (c) The helicopter shall not fly over water at an altitude of less than 500 feet except for take-off and landing, and (d) The helicopter shall not descend below 500 feet on approach to landing over water unless the landing site is clearly visible to the pilot. **Procedures** (O) To provide operational procedures to the flight crew to ensure that applicable dispatch conditions are satisfied.

Additional considerations:
In addition to the equipment required by CAT.IDE.H.145, helicopter involved in NVIS operations shall be equipped with a radio altimeter and a low height warning system giving visual and audio warnings selectable by the pilot and discernible during NVIS operation.

Aircraft applicability: Aeroplanes & Helicopters

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-20-1	**Stabilised Direction Indication**				
34-20-1A	(Aeroplanes other than commercial air transport operations & Helicopters)	C	-	1	May be inoperative provided: (a) a stabilised direction indication is operative on the pilot's-in-command side, and (b) Magnetic/standby compass is operative,
34-20-1B	(Aeroplanes)	C	-	1	May be inoperative for single pilot operations provided: (a) Operations are conducted under day VFR, and (b) A stabilised direction indication is operative on the pilot's-in-command side, (c) Magnetic/standby compass is operative.
34-20-1C	(Aeroplanes)	C	-	2	May be inoperative provided an independent stabilised direction indication is operative at each required pilot's station. Note: A standby heading indication cannot be considered to meet the above dispatch conditions.
34-20-1D	(Aeroplanes) (continued)	B	-	1	(O) May be inoperative provided: (a) Operations are conducted under day VFR, and (b) The stabilised direction indication is displayed at each required pilot's station, and

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					(c) Magnetic/standby compass is operative. **Procedures:** (O) To provide switching procedure to the flight crew to ensure adequate configuration of the displays in accordance with the above condition (b)
34-20-1E	(Helicopters with MCTOM < 3 175 kg)	A	-	0	May be inoperative for a maximum of 5 flights provided: (a) The operations are conducted under day VFR, and (b) The operations are not conducted over water out of sight of land or with a visibility less than 1 500 m, and (c) A non-stabilised direction indication (e.g. magnetic/standby compass) is operative.

Additional considerations:

34-20-1C

System architecture and functional integration should be considered in determining additional relief or restrictions.

If electronic flight deck displays are installed, a review of the failure conditions involving loss of heading displays and display of misleading heading information should be conducted in accordance with CS-MMEL 145 prior to considering using this guidance.

34-20-1D

Relief can be considered for night VFR and IFR operations based on a case-by-case evaluation and in accordance with CS-MMEL requirements.

Justifications may take advantage of available equipment providing stabilised direction indication or equivalent (e.g. GPS track).

Whenever independent stabilised direction indication is required for dispatch, compliance is ensured by the availability of independent sources (e.g. stabilised gyros) and so that no single failure can lead to the loss of both heading indications.

Aircraft applicability: Aeroplanes & Helicopters

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-22-1	**Magnetic/Standby compass**				
34-22-1A		B	-	0	May be inoperative for single pilot operations provided: (a) Operations are conducted under day VFR, and (b) A stabilised direction indication is operative on the pilot's-in-command side, and (c) Another source of magnetic heading is available and visible by the pilot-in-command.
34-22-1B		B	-	0	May be inoperative provided: (a) Operations are conducted under day VFR, and (b) Two independent stabilised direction indications are operative.
34-22-1C		B	-	0	May be inoperative provided: a) Two independent stabilised direction indications are operative, and b) Another source of magnetic heading is available and visible by the pilot-in-command.
34-22-1D	(Helicopters)	B	-	0	May be inoperative provided: (a) Operations are conducted under VFR, and (b) Two independent stabilised direction indications are operative.

Additional considerations:

Relief can be considered for night VFR and IFR operations based on a case-by-case evaluation and in accordance with CS-MMEL requirements.

Justifications may take advantage of available equipment providing stabilised direction indication or equivalent (e.g. GPS track).

Whenever independent stabilised direction indications are required for dispatch, compliance is ensured by the availability of independent sources (e.g. stabilised gyros) so that no single failure can lead to the loss of both heading indications.

The two independent stabilised direction indicator systems may be achieved by any combination of two gyroscopic or INS (IRU) stabilised compass systems.

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-20-2	**Primary Attitude Indication**				Note: A secondary/standby attitude indication is not considered as a primary indication.
34-20-2A	(Aeroplanes for other than CAT operations)	B	-	0	May be inoperative provided: (a) Operations are conducted under VFR, and (b) Standby attitude indication is operative.
34-20-2B	(Helicopters for other than CAT operations	D	-	0	May be inoperative provided operations are conducted under day VFR.
34-20-2C	(Aeroplanes & Helicopters)	C	-	1	Any in excess of one may be inoperative for single pilot operations provided: (a) Operations are conducted in day VMC in sight of the surface with adequate external attitude reference, and (b) The primary attitude indication is operative on the pilot's-in-command side, and (c) Standby attitude indication is operative.
34-20-2D	(Aeroplanes & Helicopters)	C	-	2	Any in excess of two may be inoperative provided: (a) Operations are conducted under VFR, and (b) An independent primary attitude indication is operative at each required pilot's station Note: A secondary/standby indication cannot satisfy the above condition (b).
	(continued)				

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				
34-20-2E	(Aeroplanes& Helicopters)	B	-	1	(O) Any in excess of one may be inoperative provided: (a) Operations are conducted under VFR, and (b) The primary attitude indication is displayed on both pilot's stations, and (c) Standby attitude indication is operative. **Procedures:** (O) To provide switching procedure to the crew to ensure adequate configuration of the displays in accordance with the above condition (b)
34-20-2F	(Aeroplanes) (Single pilot)	A	-	0	May be inoperative for single pilot operations only for a maximum of 2 calendar days provided: (a) Operations are conducted under day VMC in sight of the surface with adequate external attitude reference, and (b) A standby attitude indication is installed and operative.
34-20-2G	(Helicopters with MCTOM < 3 175 kg)	C	-	0	May be inoperative provided: (a) Operations are conducted under day VFR, and (b) Operations are not conducted over water out of sight of the land, and (c) Visibility is more than 1 500m.
34-20-3	**Standby Attitude Indication**				
34-20-3A	(Other than commercial air transport operations)	D	-	0	May be inoperative provided flight is conducted under VMC with a visual horizon.
34-20-3B	(Aeroplanes & Helicopters)	B	-	0	May be inoperative provided flight is conducted under day VMC with a visual horizon.

Additional considerations:

34-20-2F:

Prior to allowing dispatch without any attitude indication, a review of the certification requirements as well as the handling qualities and training of the flight crew is required.

34-20-3A & B Standby attitude indication:

If the standby attitude indicator is needed to meet the applicable requirements (e.g. CS-23.1311 Electronic Flight Display or CS-25.1309) relief may not be granted for operations under IFR for night VFR or IFR operations. Case-by-case evaluations are, however, possible, based on the applicable CS-MMEL requirements. The VMC with a visual horizon limitation prohibits 'VFR on top' or 'VFR over-the-top' operations.

ATA 34 NAVIGATION

NAVIGATION EQUIPMENT

Summary of the guidance items:

ITEM	ATA
Marker Beacon (MC)	34-31-1
ILS (or MLS) (MC)	34-32-1
Airborne Collision Avoidance System (ACAS) (MC)	34-40-1
Area Navigation System	34-40-2
Weather Detection System (Antenna(s), XCVR(s), Controller(s), Display(s))	34-41-1
Wind shear Detection/Warning System (if installed)	34-41-2
Navigation Systems (based on VOR, DME, ADF, GNSS, INS)	34-51-1
Terrain Awareness Warning System (TAWS)	34-43-1
SSR Transponder Mode A/C	34-54-1
SSR Transponder Mode S	34-54-2

Aircraft applicability: Aeroplanes

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-31-1 Marker Beacon (MC)				
34-31-1A	C	-	0	May be inoperative under IFR operations provided approach procedures do not require marker fixes.
34-31-1B	D	-	0	May be inoperative under VFR operations.

Additional considerations:

One marker beacon receiving system is required to be installed where a marker beacon is required for approach navigation purpose.

Aircraft applicability: Aeroplanes

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-32-1 ILS (or MLS) (MC)				
34-32-2A	B	-	0	May be inoperative under IFR operations provided approaches and missed approaches where navigation is based on ILS are not included in the flight plan.
34-32-2B	D	-	0	May be inoperative under VFR operations.

Additional considerations:

N/A

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-40-1	**Airborne Collision Avoidance System (ACAS)** **(MC)**				
34-40-1A		A	-	0	(O)(M) May be inoperative for a maximum of 10 calendar days provided: (a) ACAS is deactivated, and (b) Operating procedures do not require its use. **Procedures:** (O) To provide alternate crew procedures, as applicable. (M) To provide guidance for deactivation of the ACAS.
34-40-1B		C	-	-	(M) Any in excess of those required may be inoperative provided it is deactivated. **Procedures:** (M) To provide guidance for deactivation of the ACAS.
34-40-1-1	Combined TA and RA Dual Display				
34-40-1-1A		C	-	1	(O) May be inoperative on the pilot monitoring's side provided: (a) TA and RA elements and audio functions are operative on the pilot flying's side, and (b) TA and RA display indications are visible to the pilot monitoring.
	(continued)				

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(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				**Procedures:** (O) To provide alternate crew procedures, as applicable.
34-40-1-2	Resolution Advisory (RA) Display Systems				
34-40-1-2A		C	-	1	(O) One may be inoperative on the pilot monitoring side. **Procedures:** (O) To provide alternate flight crew procedures, as applicable.
34-40-1-2B		C	-	0	(O) One or more may be inoperative provided: (a) All Traffic Alert (TA) display elements and voice command audio functions are operative, and (b) TA only mode is selected by the crew, and (c) Operating procedures do not require its use. **Procedures:** (O) To provide alternate crew procedures, as applicable.
34-40-1-3	Traffic Alert (TA) Display System(s)				
34-40-1-3A		C	-	0	(O) One or more may be inoperative provided: (a) RA display and audio functions are operative, and (b) Operating procedures do not require its use. **Procedures:** (O) To provide alternate flight crew procedures, as applicable.

Additional considerations:

The deactivation of the ACAS can alternatively be performed through an operational procedure, if acceptable.

34-40-1B covers the failure of the ACAS when the system is not required by operating rules.

Aircraft applicability: Aeroplanes

ATA Chapter: 34 Navigation					
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
34-40-2 Area Navigation System					
34-40-2A	C	-	-	(O) may be inoperative provided: (a) Applicable airspace requirements for the intended flight route are complied with, (b) Certified RNP/ RNAV capabilities relevant for the intended flight route are maintained, and (c) Operational procedures do not require its use. **Procedures:** (O) To provide information about which procedures require its use .To provide alternate navigation procedures, if applicable.	
	A	-	0	(O) May be inoperative for one flight provided: (a) Routing is planned via ground-based navigational aids taking account of promulgated range, and (b) Permission is obtained from the Air Navigation Service Provider(s) when required for the intended flight route.	

Additional considerations:

The RNAV systems are stated in the Aeronautical Information Publications (or their equivalent) as being required to satisfy operational requirements for airspace procedures.

Additionally, the certified capability may be dependent on a number of systems which may vary from one aircraft type to another. The reference to appropriate operational documentation (Aircraft Flight Manual, FCOM, etc.) may be necessary in order to allow the dispatch, depending on the intended flight route.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-41-1	**Weather Detection System (Antenna(s), XCVR(s), Controller(s), Display(s))**				
34-41-1A		D	-	-	Any in excess of those required may be inoperative provided procedures do not require their use.
34-41-1B		C	-	0	May be inoperative provided operations are conducted in daylight VMC.
34-41-1C		C	-	0	May be inoperative provided no thunderstorm or other potentially hazardous weather conditions, regarded as detectable with the airborne weather detection system, are forecasted along the route. Note: The route corresponds to any point on the route including diversions to reach alternate aerodromes required by the operational rules.
34-41-1-1	Wind shear Detection/Warning System Predictive Function				
34-41-1-1A		C	-	0	May be inoperative.

Additional considerations:

ACAS item may drive the relief as the same display may be used. Refer to item 34-40-1.

ETOPS requirements are to be considered.

34-41-1-1A:

Considerations have to be taken that the failure of the predictive wind shear function may be a consequence of the loss of inputs from other items (e.g. radio altimeter). In that case, the associated guidance also applies.

Aircraft applicability: Aeroplanes & helicopters

ATA Chapter: 34 Navigation						
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-41-2	**Wind shear Detection/Warning System (if installed)**				
34-41-2-1	Reactive Function				
34-41-2-1A		C	-	0	(O) May be inoperative provided alternate procedures are established and used. **Procedures:** (O) To provide guidance procedures for wind shear avoidance and wind shear recovery procedure.

Additional considerations:

The operational procedure shall be developed to:

— Assess and minimise the probability of encountering wind shear during take-off/departure and approach/landing.

— Minimise the effects of unexpected wind shear encounter during take-off/departure and approach/landing.

The above guidance has to be consolidated with the associated restrictions applicable to ground proximity warning system (GPWS) (ATA 34), weather radar system (ATA 34), flight guidance system (ATA 22) or flight director (Guidance Item 22-10-2) should the wind shear predictive or reactive function be performed by those systems.

Aircraft applicability: Aeroplanes

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-43-1	**Terrain Awareness Warning System (TAWS)**				
34-43-1A		A	-	0	May be inoperative for a maximum of 6 flights or 2 calendar days, whichever occurs first.
34-43-1B		C	-	0	Any in excess of those required may be inoperative.
34-43-1-1	Modes 1 to 4				
34-43-1-1A		B	-	0	One or more mode may be inoperative provided FLTA and PDA functions are operative.
34-43-1-2	Test Mode				
34-43-1-2A		A	-	0	May be inoperative for a maximum of 6 flights or 2 calendar days, whichever occurs first.
34-43-1-3	Glideslope Deviation (Mode 5)				
34-43-1-3A		B	-	0	May be inoperative.
34-43-1-3B		C	-	0	May be inoperative for day VMC only.
34-43-1-4	Terrain System-Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) functions				
34-43-1-4A		B	-	0	May be inoperative provided: (a) Mode 1-4 are operative, and (b) Approaches procedures do not require its use.

(continued)

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
34-43-1-5 Advisory Callouts				
34-43-1-5A	C	-	0	(O) May be inoperative provided: (a) Low visibility approaches requiring the use of affected callouts are not performed, and (b) Alternate procedures are established and used. Note: Check Flight Manual limitations for approach minima.

Additional considerations:

The above guidance is applicable to either Class A or Class B TAWS.

The mode 1-5 referenced in the guidance correspond to:

Mode 1 — Excessive descent rate (sink rate);

Mode 2 — Excessive terrain closure rate (ground proximity);

Mode 3 — Altitude loss after take-off or go around;

Mode 4 — Unsafe terrain clearance during high speed flight or while not in the landing configuration;

Mode 5 — Below glideslope deviation alert.

FLTA & PDA functions are required for RNP-AR (Required Navigation Performance (RNP) instrument approach procedures with Special Aircraft and Aircrew Authorization Required (SAAAR) operations.

Aircraft applicability: Aeroplanes & Helicopters:

ATA Chapter: 34 Navigation					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-51-1	**Navigation Systems (based on VOR, DME, ADF, GNSS, INS)**				
34-51-1A	(Except for commercial air transport operations)	D	-	0	May be inoperative provided: (a) Operations are conducted under VFR, and (b) Applicable airspace requirements are complied with.
34-51-1B		C	-	-	(O) One or more may be inoperative provided: (a) The navigation systems required for each segment of the intended flight route are operative, and (b) Alternate procedures are established and used, where applicable. **Procedures:** (O) To give alternate procedures in case existing operational procedures are affected.

Additional considerations:

This entry covers failure of navigation systems, e.g. VOR, DME, ADF, INS, and GNSS, that provide approved navigation information to the flight crew as either a stand-alone system or in combination with a navigation management system (e.g. FMS, R-NAV).

However, this entry does not cover the failure of navigation management system.

Others aircraft systems may be affected by the failed navigation system (e.g. TAWS). This has to be reflected on a case-by-case basis when this guidance is applied.

Heading, airspeed, and clock data are not considered as a navigation system by this guidance.

Additional restrictions may apply if required during certification of the navigation systems. As an example, if raw navigation data have been used to achieve an acceptable level of safety, in addition to any multi-sensor computed data, to avoid 'hazardously misleading' navigation information, further restriction on the availability of such raw data information may be required.

Operational rules for the selection of alternate aerodromes are available in operational requirements.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-54-1	**SSR Transponder Mode A/C**				
34-54-1A		A	-	0	(O) May be inoperative for a maximum of 5 flights provided: (a) Flight is conducted under VFR over routes navigated by reference to visual landmarks, and (b) Permission is obtained from the Air Navigation Service Provider(s) along the route or any planned diversion. Note: Mode C function is required to be operative for RVSM operations
34-54-1B		D	-	-	Any in excess of those required may be inoperative.
34-54-2	**SSR Transponder Mode S**				
34-54-2A		D	-	-	Any in excess of those required for the intended flight route, may be inoperative. Note: A SSR transponder with an operative Mode S function is defined as a transponder which can provide, at least, Elementary Surveillance capability.

(continued)

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
34-54-2B		C	-	0	One or more may be inoperative provided permission is obtained from the Air Navigation Service Provider(s) when required for the intended flight route. Note 1: An SSR transponder with an operative Mode S function is defined as a transponder which can provide, at least, Elementary Surveillance capability. Note 2: Elementary Surveillance (ELS) capability (Mode S including Aircraft Identification and Pressure Altitude Reporting) is required in European Mode S designated airspace. Note 3: Altitude reporting, provided by an SSR transponder Mode S function, is required for ACAS II operation. Refer to item 34-40 for flight with ACAS II inoperative. Note 4: Altitude reporting, provided by an SSR transponder Mode S function, is required for flight into RVSM airspace.
34-54-2-1	Enhanced Surveillance Functions				
34-54-2-1A		D	-	0	One or more Downlinked Aircraft Parameters (DAPs), which provide Enhanced Surveillance, may be inoperative when not required for the intended flight route.
34-54-2-1B		C	-	0	One or more Downlinked Aircraft Parameters (DAPs), which provide Enhanced Surveillance, may be inoperative when required for the intended flight route. Note: Enhanced surveillance capability is required in Mode S EHS notified airspace.
(continued)					

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
	(continued)				
34-54-2-2	Extended Squitter (ADS-B OUT) Transmissions				
34-54-2-2A		D	-	0	One or more extended squitter transmissions may be inoperative when not required for the intended flight route.
34-54-2-2B		C	-	0	One or more extended squitter transmissions may be inoperative when required for the intended flight route.

Additional considerations:

Enhanced surveillance is not applicable to helicopters. They are only required to install elementary surveillance. This does not preclude a helicopter from voluntary installation of enhanced surveillance.

24-54-2 SSR Mode S Transponder

If ELS capability of the Mode S transponder is maintained, the 34-54-2B entry is not applicable, but reference to 34-54-2-1 enhanced surveillance functions may be required.

If ELS capability is affected, prior ANSP permission is required.

As an example, this may be achieved through the utilisation of Item 10 of the FPL that can be completed using the designator letters for the surveillance/SSR equipment element as follows:

'S' — Transponder, Mode S, including both pressure altitude and aircraft identification transmission. [This equates to ELS compliant]

'P' — Transponder, Mode S, including pressure altitude transmission but no aircraft identification transmission.

'I' — Transponder, Mode S, including aircraft identification transmission but no pressure altitude transmission.

'X' — Transponder, Mode S, without both pressure altitude and aircraft identification transmission.

'C' — Transponder, Mode A (4 digits - 4096 codes) and Mode C.

'A' — Transponder, Mode A (4 digits - 4096 codes).

'N' — Nil (Hardly likely to be accepted into European airspace).

From a practical ATC perspective, most probably only 'S', 'P', and 'C' would be acceptable to Air Navigation Service Providers (ANSPs), whilst 'C' would reply to ground Mode S interrogations, this level of functionality in a Mode S environment might not be acceptable to all ANSPs in the long term.

Summary of the guidance items:

Item	ATA
Supplemental Oxygen System (Non- Pressurized Aircraft)	35-00-1
Flight Crew Fixed Oxygen System (Supplemental)	35-10-1
Passenger/Cabin Crew Oxygen System (Supplemental) (if installed)	35-20-1
First-Aid Oxygen	35-50-1

Aircraft applicability: Non-pressurised Aeroplanes and Helicopters

ATA Chapter: 35 Oxygen					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35-00-1	**Supplemental Oxygen System (Non- Pressurized Aircraft)**				
35-00-1-1	Flight Crew Compartment				
35-00-1-1A		C	-	0	One or more may be inoperative provided the aircraft is not operated above 10 000 ft pressure altitude.
35-00-1-2	Cabin Compartment				
35-00-1-2A		C	-	-	Any in excess of those required may be inoperative.
35-00-1-2B		C	-	-	One or more may be inoperative provided the aircraft is not operated above 10 000 ft pressure altitude.

Additional considerations:

35-00-1-1A:

Additional restrictions on air conditioning system, and/or availability of portable oxygen units, may be needed to mitigate the risk against smoke in the flight crew compartment.

35-00-1-2A:

Additional restrictions on air conditioning system, and/or availability of portable oxygen units, may be needed to mitigate the risk against smoke in the cabin.

Aircraft applicability: Aeroplanes

ATA Chapter: 35 Oxygen					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35-10-1	**Flight Crew Fixed Oxygen System (Supplemental)**				
35-10-1-1	Flight Crew Compartment Pressure Indications				
35-10-1-1A		C	-	-	(O)(M) One or more may be inoperative provided a procedure is used to ensure that oxygen supply is above the minimum for the intended flight. **Procedures:** (O)/(M) To provide an alternate means to compute the available oxygen quantity, e.g. using the pressure gauge located on the bottle.
35-10-1-2	Bottle Gauges				
35-10-1-2A		C	-	0	One or more may be inoperative provided the associated flight crew compartment pressure indication is operative.
35-10-1-3	Additional Oxygen Masks (e.g. Supernumerary)				
35-10-1-3A		C	-	0	One or more may be inoperative provided the associated seat is not occupied.
35-10-1-3B		C	-	0	One or more may be inoperative provided the maximum altitude is limited to 10 000 ft pressure altitude.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes

ATA Chapter: 35 Oxygen

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35-20-1 Passenger/Cabin Crew Oxygen System (Supplemental oxygen) **(if installed)**				
35-20-1A	B	-	0	(O)(M) May be inoperative provided: (a) Maximum altitude is limited to 10 000 ft pressure altitude, (b) An adequate supply of fresh air is provided to the cabin, and (c) Passengers are appropriately briefed. **Procedures:** (O) or alternatively (M) To set the aircraft in a configuration providing an adequate supply of fresh air to the cabin. (O) To provide a passenger briefing in accordance with the dispatch configuration.
35-20-1B	B	-	0	(O) May be inoperative provided: (a) Maximum altitude is limited to 25 000 ft pressure altitude, (b) Air conditioning packs are operative, (c) All components of the pressurisation system are operative, (d) Aeroplane is able to descend within 4 minutes to a cabin pressure altitude of 13 000 ft at all points along the route to be flown,

(continued)

ATA Chapter: 35 Oxygen

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					(e) Portable oxygen units are available for all required cabin crew members, (f) Sufficient oxygen quantity is available for at least 10 % of the passengers for the entire flight time when the cabin pressure altitude is between 10 000 ft and 13 000 ft following a decompression event at the most critical point of the intended flight route, and (g) Passengers are appropriately briefed. **Procedures:** (O) To provide passenger briefing in accordance with the dispatch configuration.
35-20-1-1	Automatic Presentation System				
35-20-1-1A		C	-	0	May be inoperative provided: (a) The manual deployment from the flight crew compartment is operative, and (b) The maximum altitude is limited to 30 000 ft pressure altitude.
35-20-1-1B		C	-	0	(O) May be inoperative provided: (a) Maximum altitude is limited to 25 000 ft pressure altitude, and (b) Aeroplane is able to descend within 4 minutes to a cabin pressure altitude of 13 000 ft at all points along the route to be flown,
(continued)					

ATA Chapter: 35 Oxygen

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					**Procedures:** (O) To ensure passenger oxygen availability and quantity is adequate to the intended route taking into account manual deployment may not be available (hidden failure) when needed.
35-20-1-2	Passenger Service Units (Drop-Down Oxygen)				
35-20-1-2A		B	-	-	(M)(O) One or more passenger service units may be inoperative provided: (a) Affected seats are blocked and placarded to prevent occupancy, and (b) Units are operative for all operative passenger seats, toilet compartments and cabin crew locations. **Procedures:** (M) or alternatively (O) To give guidance reference for a practical mean of prohibiting the use of the affected seat(s).

Additional considerations:

35-20-1A:

The fresh air is non-re-circulated air.

35-20-1B:

The total amount of supplemental oxygen required in Portable Passenger Oxygen units (e) is in addition to the amount required for first-aid oxygen. The oxygen quantity requirements are based on CAT rules.

The intent of the CAT rules is to ensure that 10% of passenger, wherever there are should have access to oxygen.

This requirement is mainly applicable to small aircraft not certified to fly above FL250. For those small aircraft, portable oxygen units can be embarked for 10% of the passengers and circulated in the aircraft whenever needed.
This is not relevant to big aircraft since it would not be realistic to embark additional portable oxygen bottles for 10% of the passengers and ensure those bottles would be circulated throughout the aircraft in the case of necessity.

35-20-1-1A Automatic Presentation System:

The automatic function of the passenger oxygen system can only be tested by simulation (usually by an MRB task) if no built-in monitoring is provided. The normal system is also checked by MRB task with similar intervals by actuating the flight crew compartment manual control.

The distinction between automatic and manual is made in the certification specification for design requirements as a decompression at flight altitudes of more than 30 000 ft would result in rapid loss of consciousness that justifies the automatic presentation.Failure of the automatic function is generally not detected until the maintenance task is performed and thus MMEL guidance to cover the loss of this particular function is only justified to release the aircraft after maintenance.

The proposed guidance is only applicable to design where the manual control system is monitored and is indicated to the crew in case of failure by dedicated fault message before the flight.

35-20-1-1B Automatic Presentation System: This entry is to cover cases where the manual control system is not monitored and thus no credit could be taken upon its availability. The associated limitations are based on CAT.IDE.A.235 (c) rule. It is expected that the descent performance dispatch condition (b) is explicited at aircraft type MMEL level.

35-20-1-2A

Rectification interval B is more restrictive than the rectification interval proposed for 25-21-1A (Passenger Seats) in order to cover the consequence of the inoperative unit on adjacent passengers and/or cabin crew.

Aircraft applicability: Aeroplanes

ATA Chapter: 35 Oxygen				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35-50-1 First-Aid Oxygen				
35-50-1A	D	-	-	(M)(O) Any portable oxygen dispensing unit in excess of those required may be inoperative or missing provided: (a) Required distribution of operative units is maintained throughout the aircraft, (b) The inoperative portable oxygen dispensing unit is placarded inoperative, and (c) Procedures are established and used to alert crew members of inoperative or missing equipment. **Procedures:** (M) To provide instructions to placard the inoperative portable oxygen dispensing unit or its installed location if the unit is removed from its installed location. To secure the portable oxygen dispensing unit if if the unit is removed from its installed location and stored in another location. (O) To provide procedures to alert crew members.

Additional considerations:

First-Aid Oxygen Supply Time:

The minimum oxygen supply time should be equal to the time needed for the aircraft to land on an aerodrome. The minimum oxygen supply time depends of the amount of oxygen needed to supply 2 % of the passengers with oxygen after a decompression.

Number of portable oxygen dispensing units:

The number of mandatory portable oxygen dispensing units, defined for each aircraft type, is calculated as follows:

- One portable oxygen dispensing unit is required for each required cabin crew, and
- Portable oxygen dispensing units are required for 2 % of the passengers.

The minimum number of required portable oxygen dispensing units is determined by the highest number due to the above requirements.

The actual number of portable oxygen dispensing units is determined by the operator itself and depends on the flight duration, in particular the time needed to reach the nearest aerodrome for landing.

Relief can be considered for partially filled bottles provided that the oxygen quantity is in accordance with the applicable regulations. In this case, a procedure should be developed to ensure that the total quantity of oxygen in the operative bottles is adequate.

When determining the location for storage of the inoperative units, compliance with the dangerous goods requirements must be considered.

Summary of the guidance items:

Item	ATA
Electronic Flight Bag (EFB) Systems	46-20-1
Class 2 EFB	46-20-2
Power Connection for Class 1 and Class 2 EFB	46-20-3

ATA Chapter: 46 Information Systems

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
46-20-1	**Electronic Flight Bag (EFB) Systems**				
46-20-1A		C	-	0	(M)(O) May be inoperative provided alternate procedures are established and used where operating procedures require the use of the affected EFB.
46-20-2	**Class 2 EFB**				
46-20-2-1	Mounting Device				
46-20-2-1A		C	-	1	(M) (O) Any in excess of one may be inoperative provided the affected EFB is secured by an alternative means.
46-20-2-1B		C	-	0	(M) (O) May be inoperative provided: (a) The associated EFB is used in accordance with Class 1 EFB stowage criteria, and (b) Alternate procedures are established and used where operating procedures require the use of the affected EFB.
46-20-2-2	Data Connectivity				
46-20-2-2A		C	-	1	(M) (O) Any in excess of one may be inoperative provided an alternative means of data connectivity is used.
		C	-_	0	(M) (O) May be inoperative provided alternate procedures are established and used where operating procedures require the use of the affected EFB.

(continued)

ATA Chapter: 46 Information Systems

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					**Procedures:** (M) To give guidance reference for deactivation of the affected item, as appropriate, and to establish alternate means, as applicable. (O) To provide instructions to the flight crew for alternate procedures to be used.
46-20-3	**Power Connection for Class 1 and Class 2 EFB**				
46-20-3A		C	-	1	(M) (O) Any in excess of one may be inoperative provided an alternative power source is available and can be used for the planned duration of use of the affected EFB.
46-20-3B		C	-	0	(M) (O) May be inoperative provided alternate procedures are established and used. **Procedures:** (M) To give guidance reference for deactivation of the affected item, as appropriate, and to establish alternate means, as applicable. (O) To provide instructions to the flight crew for alternate procedures to be used.

Additional considerations:

The purpose of entry 46-20-1 is not to require inclusion of Class 1 & 2 EFBs in an operator's MEL, but it is a means of controlling inoperative EFB equipment. Other means may also be agreed with the competent authority.

Any EFB function which operates normally may be used.

Summary of the guidance items:

Item	ATA
Door/Exit	52-11-1
Door/Exit (All Cargo Configuration only)	52-11-2
Flight Crew Compartment Door	52-51-1

Aircraft applicability: Aeroplanes

ATA Chapter: 52 Doors				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52-11-1 Door/Exit				
52-11-1A	A	-	-	(O)(M) One, on each deck, may be inoperative for a maximum of 5 flights provided: (a) The number of passengers carried and the position of the seats which they occupy is in accordance with the the Maximum Passenger Capacity (MPC) table [see guidance provided in 'Additional Considerations'], and (b) Adequate cabin safety procedures are established and used, and (c) Affected door/exit is closed and locked, and (d) The affected door/exit is not used for passenger boarding, nor for any non-emergency purpose whilst passengers are on board, (e) Affected door/exit is marked with a placard to prohibit utilisation, as applicable, and (f) All the door/exit markings, signs and lights associated with the affected door/exit must be obscured, as applicable.
(continued)				

ATA Chapter: 52 Doors				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				**Procedures:** (O) To ensure that: — All crew members are briefed on the location and condition of the affected door/exit, passenger distribution and modified cabin safety procedures; — Where the affected door/exit can be opened, the briefing should address the possible use of the door for emergency evacuation in certain circumstances; — The affected emergency exit, escape paths, and blocked seating layout are checked before each take-off and landing; — The pre-take-off briefing to passengers accurately represents the current state and condition of the aircraft's escape facilities; — A verbal briefing by cabin crew, or a briefing using automatic audio/visual presentation, or a briefing by reference to a briefing card, is immediately complemented by a verbal/public announcement to inform passengers that a particular door/exit is inoperative and displays an appropriate placard.
(continued)				

ATA Chapter: 52 Doors

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					(M) To ensure that: — Affected door/exit is closed and locked if the closing/locking function is not affected; — If the closing/locking mechanism is affected, the door is secured closed and locked; — A conspicuous barrier, strap or rope and a placard stating 'DO NOT USE' are placed across the affected door/exit, as applicable, prior to passenger boarding; — Associated door/exit markings, signs and lights are obscured or removed.
52-11-2	**Door/Exit (All Cargo Configuration only)**				
52-11-2A		C	-	2	Any in excess of two door/exit not located in the flight crew compartment and intended to be used by the persons on board to evacuate the aeroplane may be inoperative.
52-11-2B		A	-	1	(O) Any in excess of one door/exit not located in the flight crew compartment and intended to be used by the persons on board to evacuate the aeroplane may be inoperative for a maximum of 5 flights. **Procedures:** (O) To ensure that: — All crew members are briefed on the location and condition of the affected emergency exit and modified cabin safety procedures; — A pre-take-off briefing to occupants accurately represents the current state and condition of the escape facilities.
(continued)					

ATA Chapter: 52 Doors

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
52-11-2C	A	-	1	(O) Any in excess of one door/exit not located in the flight crew compartment may be inoperative for a maximum of 10 calendar days provided: (a) A specific evacuation procedure is established, and (b) Only flight crew members and authority or operator inspector(s) essential for the flight are on board, and (c) The operative door external opening mechanism is operative, and (d) The operative door internal opening mechanism is operative, (e) The operative door escape slide or slide raft is operative unless an approved alternate means of escape is available, and an appropriate raft (if required) is available, (f) The operative door associated exit marking or locator sign and its associated floor proximity emergency escape path marking system and its associated exit interior emergency lighting and its exit exterior emergency lighting (for night operations) are operative, unless an operative torch is available for each flight crew member, and (g) Flight crew members are to review the evacuation procedure before each flight.
(continued)				

ATA Chapter: 52 Doors

(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				**Procedures:** (O) To ensure that: — All crew members are briefed on the location and condition of the affected door/exit and modified cabin safety procedures; — An alternate evacuation procedure is established and used to cover the specific dispatch configuration.
52-11-2D	A	-	0	(O) All doors/exits not located in the flight crew compartment may be inoperative for a maximum of 3 flights provided: (a) Specific procedures are established to enter/evacuate the aeroplane, (b) An appropriate raft (if required) is available, (c) Only flight crew members and authority or operator's inspector(s) essential for the flight are on board, and (d) Flight crew members are to review the evacuation procedure before each flight. **Procedures:** (O) refer to 52-11-1C.

Additional considerations:

52-11-1 Door/exit

52-11-1A

Condition (d):

This condition accounts for human factor considerations. However, it does not preclude the dispatch with a door/exit used for passengers boarding or other purposes when passengers are on board and found to be inoperative afterwards. In this case additional considerations regarding operational procedures have to be taken not account.

In the event that a door/exit which has been used for boarding becomes unserviceable, then, prior to take-off, all passengers must be fully briefed on the inoperative door/exit and the revised emergency procedures are to be used.

Condition (e):

This condition ensures that the door/exit is marked with a placard to prohibit utilisation if the failure mode prevents safe opening of the door/exit.

If the affected emergency exit can be opened manually (no failure in the mechanical opening system is present), it may still be used for evacuation in the case of emergency. In this case, the passenger briefing has to be adapted.

The same applies to condition (f).

Condition (f):

In case of cabin crew seats are located adjacent to an inoperative pair of exits, the operator should considered a re-location of one or more cabin crew to a different zone of the cabin in order to improve

52-11-2 Door/exit (All Cargo Configuration only):

Additional conditions may be required if cabin occupants other than flight crew members are carried.

PASSENGER NUMBER REDUCTION AND DISTRIBUTION GUIDANCE

Applicability:

An exit is considered to be inoperative when, e.g. (non-exhaustive list):

(1) the external exit opening means does not function correctly;

(2) the internal exit opening means does not function correctly;

(3) the exit opening power assist mechanism does not function correctly, unless already covered by a dedicated MMEL item;

(4) the door gust lock does not function correctly unless already covered by a dedicated MMEL item;

(5) the assisting evacuation means, if required, is inoperative;

(6) the exit marking or locator sign is inoperative;

(7) the floor proximity exit marker is inoperative;

(8) the exit interior emergency lighting is inoperative; or

(9) the exit exterior emergency lighting or slide illumination, in case of night operation, is inoperative.

Passenger/Seat Occupancy Reduction Guidance:

1. GENERAL

(1) Any aeroplane configured with two pairs of Type III or larger exits only, is considered to be in an airworthy condition with one passenger emergency exit inoperative provided that the number of passengers is reduced to less than 20 and the entry door is operative.

(2) Any aeroplane configured with more than two pairs of exits is considered to be in an airworthy condition with one passenger emergency exit inoperative provided that the number and distribution of passengers is in accordance with the maximum permitted (for the complete aeroplane and in each zone) capacity tables (MPC tables) that are specified in the relevant MEL in accordance with paragraph 2 below.

MPC tables are to be established for each exit inoperative configuration in every aeroplane type and model and for each individual passenger seating configuration that shall be operable with the respective exit inoperative.

(3) ***Not more than one exit may be inoperative.***

In this respect, twin overwing exits (separated by less than three rows) in a side of the aeroplane are considered as a single exit if declared inoperative because of a single common failure (e.g., but not limited to a common slide failure or a common exit locator sign failure.)

2. Calculation of MAXIMUM PASSENGER CAPACITY (MPC) TABLES

(a) General

(1) For the calculation, it is to be assumed that **both exits of the exit pair are inoperative, if one exit fails.**

An exit pair consists of two exits located essentially directly opposite each other but the combination of a single side exit and a tailcone exit is also considered to be a pair of exits.

(2) A zone is defined as any section of the passenger cabin which is longitudinally bounded by a pair of exits on both ends or, where passenger seats are installed beyond the most forward or aft pair of exits, by the start or end of the cabin and the nearest pair of exits. If a zone has only an exit pair on one end, it is called a dead end zone.

A zone may also exist between the last exit pair and the tailcone exit (opening), or between an exit pair and a single ventral exit, if there are passenger seats installed in this area.

In aeroplanes where a single side exit and a tailcone exit are considered to be an exit pair and where seats are installed behind the side exit, the last zone starts and the penultimate zone ends at a centre line midway between the side exit and the tailcone exit (opening). The last zone in this configuration is also considered to be a dead end zone.

Note: Seats installed between the side exit and the tailcone exit are considered to be in the zone forward (or aft respectively) of the centreline midway between the two single exits if their front studs are forward (or aft respectively) of the centreline.

(3) 'Aeroplane capacity' means the number of passengers calculated for the aeroplane; 'zone capacity' means the number of passengers calculated for a designated zone of the passenger cabin.

(4) The maximum number of passengers permitted for each *operative* exit pair/exit is defined as follows:

Table 1

Emergency exit	Passenger exit/ exit pair rating
Type A (exit pair)	110
Type B (exit pair)	75
Type C (exit pair)	55
Type I (exit pair)	45
Type II (exit pair)	40
Type III (exit pair)	35
Adjacent type III (less than 3 seat rows)* see Note 2	65
Type IV (exit pair)	9
Ventral exit (single exit)	12
Large tailcone exit (single exit)	25
Other tailcone exit (single exit)	15
Large tailcone exit combined with a Type I or larger exit (exit pair)	45

Note 1: Type B and C are listed above, for aircraft that were certificated using these ratings, if any. Other ratings (e.g. oversized type I, etc.), as determined during certification, may be considered.

Note 2: Dual overwing exit pairs located more than three seat rows apart from each other are considered as separate exit pairs.

Note 3: Two adjacent Type III overwing exit pairs located within three seat rows from each other are considered as one pair of exits (dual Type III exit pair) having a rating of 65. To determine the start or end of a zone bounded on one end by the two adjacent exit pairs, a new centerline midway between the two adjacent exit pairs shall be established. Seats whose front studs are forward of the new centerline are considered to be in the forward zone, seats whose front studs are aft of the new centerline are considered to be in the aft zone.

In case of a single common failure of the adjacent exit pairs, all four exits are assumed to be inoperative. In case of a non-common single failure related to one exit out of the four exits only, one operative Type III exit pair with a rating of 35 remains.

Note 4: Exits of an exit pair that are not of the same size, e.g. a Type III exit on one side of the fuselage and a Type II exit opposite, have the (exit pair) rating of the smaller exit type.

Note 5: A *large* tailcone exit is an exit incorporating a floor level opening of not less than 20 inches wide by 60 inches high, with corner radii not greater than 7 inches, in the pressure shell and incorporating an approved assist means.

Note 6: Any *other* tailcone exit is an exit incorporating an opening in the pressure shell which is at least equivalent to a type III exit and has the top of the opening not less than 56 inches from the passenger compartment floor.

Note 7: The rating of each emergency exit in the passenger compartment installed in excess of the minimum number of required passenger emergency exits is zero for the calculation of the Maximum Passenger Capacity.

(b) Calculation method

Based on the passenger seat layout approved for the individual aeroplane, a drawing of the passenger compartment must first be established clearly showing:

- the position of exits,
- the type of exits,
- the exits above the waterline ('ditching exits')
- the passenger zones,
- the number and position of all passenger seats in each zone,
- the overload capacities of the rafts available at each exit.

Using the above drawing, initial aeroplane capacities for the different inoperative exit cases are to be calculated according to (b) (1) below to ensure that an acceptable level of safety is maintained.

Then initial zone capacities are to be calculated for each case according to (b) (2) below for all zones to avoid overloading of individual zones and to ensure that passenger seating arrangement is optimized.

Finally, the *maximum permitted zone capacities* (MPZC) are to be calculated according to (b) (3) below.

(1) Initial aeroplane capacity:

If only one of the operative exit pairs of the aeroplane is a Type A, Type B, or Type C, this exit pair has to be downrated to Type I before starting the following calculation.

The initial aeroplane capacity with one exit inoperative is the most limiting figure of the following:

(i) the sum of the passenger exit ratings for all *operative exit pairs*/exits as specified in table 1 of section 2(a) above;

(ii) the maximum number of passengers approved for the emergency evacuation as specified on Type Certificate Data Sheet (TCDS) of the aeroplane type or model reduced by the passenger exit rating of the inoperative exit pair or, in case of a single exit, of the inoperative exit;

(iii) **9**, if only one operative exit pair including doors smaller than Type III is available,

19, if only one operative exit pair of Type III or larger is available,

40, if at least two operative exits pairs are available, of which one pair is Type II or larger,

110, if at least two operative exits pairs are available, of which one pair is Type I or larger,

If at least two operative exit pairs of type I or larger are available, this paragraph (iii) is not applicable.

Note: A dual Type III exit pair (exit rating: 65) is also considered to be 'larger' than a Type I exit pair in this context.

(iv) whether ditching certification is requested or not, the number of operative exits in both sides of the aeroplane, which meet at least the dimensions of a Type III exit and are above the waterline, has to be multiplied by 35.

If a higher passenger seat/exit ratio has been granted for type certification for any exit above the waterline, this ratio may be used instead of 35.

If there is only one top hatch or one operative side exit above the waterline in each side of the aeroplane that has at least the dimensions of a Type III exit, the initial aeroplane capacity is limited to 35.

If there is only one operative exit above the waterline in each side of the aeroplane that has at least the dimensions of a Type IV exit, the initial aeroplane capacity of the aeroplane must be limited to 9.

(v) If life rafts are required to be carried:

a. the sum of the rated capacities of all slide rafts of operative exit pairs including the rated capacity of any life raft, or

b. the sum of the overload capacities of all slide rafts of operative exit pairs including the overload capacity of any life raft taking into account the loss of one slide/life raft of the **largest rated** capacity

whichever is the most limiting.

(2) Initial zone capacities:

To get the initial zone capacities, the following criteria must be applied one after the other using the most limiting zone capacity achieved so far for the next calculation step.

(i) **Individual zone capacity limitation:**

The capacity of each individual zone shall not exceed the sum of the exit ratings of the operative exit pairs bordering the zone.

In addition, passengers shall not be seated on seat rows adjacent to the affected exit(s), unless for particular layout it has been shown that the remaining evacuation capability remains acceptable without this restriction.

In case a dead end zone is made up of two adjacent zones one forward and one rearward of the inoperative exit (e.g. first pair of exits is considered inoperative and passengers are seated forward of the pair of exits), the sum of the capacities of the adjacent zones shall not exceed 75 % of the rating of the operative exit pair bordering the dead end zone.

In order to account for potential increased distance between occupied seats and the nearest operative exit, each zone adjacent to an inoperative exit has to be treated as a dead end zone and the associated passenger capacity of the affected zones is downgraded to 75 % of the rating of the single pair of exits bordering the zone (rounded down).

Sequential zone capacity limitation:

While traversing the cabin from nose to tail and from tail to nose, the passenger capacity of combined consecutive zones shall not exceed the sum of the ratings of the operative exit pairs bordering and included in the consecutive zones being analysed. The combination of all zones is excluded from the analysis (e.g. for a 4 zones (A/B/C/D) cabin: A+B, A+B+C and D+C,D+C+B combinations have to be analysed). If necessary, the passenger capacity of the affected zone(s) in this combination (i.e. bordered by an inoperative exit pair) shall be reduced accordingly. These reduced capacities, if any, have to be taken into account for the next sequences of the calculation when traversing the cabin in one direction.

(3) Maximum permitted zone capacities (MPZC):

The initial zone capacities must be reduced to maximum permitted zone capacities, the sum of which is limited by the initial aeroplane capacity.

The reduction may be applied equally to all zones or mainly to the zone(s) adjacent to the inoperative exit, as appropriate.

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 52 Doors

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52-51-1	**Flight Crew Compartment Door**				
52-51-1-1	Locking System				
52-51-1-1A		B	-	0	(M) (O) May be inoperative provided: (a) It is deactivated, and (b) A safe position of the door is ensured for take-off and landing, and (c) Alternate crew procedures are established and used for controlling access to the flight crew compartment, in accordance with the applicable national civil aviation security programme. **Procedures:** (M) To provide guidance for deactivation of the locking system and, if necessary, the means to ensure proper position of the door in accordance with condition (b). (O) To provide alternate crew procedures for controlling access to the flight crew compartment.
52-51-1-2	Flight Crew Compartment Access/Control Functions				
52-51-1-2A		B	-	0	(O) May be inoperative provided: (a) Emergency means are operative to enable a crew member to enter the pilot compartment in the event that the flight crew becomes incapacitated, and (b) Alternate crew procedures are established and used. **Procedures:** (O) To provide alternate procedures for the crew to manage access control to the flight crew compartment.

Additional considerations:

The proposed guidance refers to alternate procedures to be established and used when the locking system of the door is inoperative for controlling access to the flight crew compartment.

These procedures may rely on available locking features installed on the aircraft to meet applicable security requirements.

These procedures will have to consider appropriate actions when a decompression function is dependent on the affected locking system in order to ensure that an acceptable level of safety is maintained.

A restriction of the rectification interval may be considered when evaluating the consequences on airworthiness and security of the proposed dispatch configuration.

The utilisation of part of these procedures for some designs features that may incorporate additional locking features or locking features that were originally designed for use in other than in-flight operations, and which may be accompanied by placards labelled 'For Ground Use Only', etc., is not considered to be part of this guidance.

EK-4

JENERİK TEMEL ASGARİ TECHİZAT LİSTESİ İÇİN SERTİFİKASYON ŞARTNAMESİ VE REHBER DOKÜMAN (CS-GEN-MMEL)

BÖLÜM 1 SERTİFİKASYON ŞARTNAMESİ

CS GEN.MMEL.100 Uygulama Kapsamı

İşbu Sertifikasyon Şartnamesi (CS), çok hafif uçaklar (VLA), hafif spor uçaklar (LSA) ve motorlu planörler hariç, kompleks olmayan motorlu uçaklar için geçerlidir.

CS GEN.MMEL.105 Tanımlar

SHT-MMEL/MEL Talimatının Madde 4(Tanımlar ve Kısaltmalar) bölümüne bakınız.

CS GEN.MMEL.107 Sunulan verilerin durumu

MMEL ve ilişkili operasyon ve bakım prosedürleri, SHY-21 içerisinde tanımlanan Operasyonel Uygunluk Verilerinin (OSD) bir parçasıdır ve son kullanıcı için zorunlu veriler ile zorunlu olmayan veriler arasında net bir ayrım yapabilmesi amacını sağlar. Başvuru sahibi tarafından sağlanan veriler, nihai kullanıcı için zorunlu veya zorunlu olmayan tavsiyeler olarak sunulur.

CS.GEN.MMEL.125 içerisinde tanımlanan MMEL içeriği, başvuru sahibinden elde edilmesi gereken ve son kullanıcı için zorunlu olan veriler olarak kabul edilir.

MMEL içerisinde atıfta bulunulan operasyon ve bakım prosedürleri son kullanıcı için zorunlu olmayan (öneri) veriler olarak kabul edilir.

CS GEN.MMEL.110 MMEL amacı

MMEL, özel işletim koşullarına, kısıtlamalara ya da prosedürlere bağlı olarak belirli bir uçak tipinde veya modelinde geçici olarak gayri faal olabilecek parçaları listeleyen bir dokümandır.

CS GEN.MMEL.115 MMEL parçalarının eklenmesi

Ek-6 içerisinde yer almayan kurulu parçalar (emniyet dışı parçalar hariç) için başvuru sahibi son kullanıcıya muafiyet sunmak isterse, MMEL içerisine dâhil edilmesi için gerekçe oluşturulabilir.

Gerekçeler için CS-MMEL Bölüm 1 esas alınmalıdır.

CS GEN.MMEL.120 Operasyon türleri

MMEL, uçak türüne veya modeline sertifika verilen tüm operasyon türlerini kapsar.

CS GEN.MMEL.125 MMEL formatı ve içeriği

MMEL şunları içerir:

(a) Bir kapak sayfası;

(b) Onay tarihi ve yürürlük tarihini içerecek şekilde onay durumunun belirtildiği Ajans tarafından imzalı bir kontrol sayfası;

(c) Aşağıdakileri içeren bir "genel" bölüm:

(1) İçindekiler,

(2) Geçerli sayfaların listesi ve

(3) Son revizyondaki değişikliklerin ayrıntılı bir özetinin bulunduğu bir revizyon geçmişi;

(d) Bir ön söz;

(e) Tanımlar ve söz konusuysa parça listesinin kapsamını, içeriğini ve amacını yeterli ölçüde yansıtan açıklayıcı notlar ve

(f) Bir "parça listesi" bölümü.

CS GEN.MMEL.130 MMEL kapak sayfası, kontrol sayfası ve genel bölümü

MMEL kapak sayfası, kontrol sayfası ve genel bölümü, EK-5 içerisindeki 5.1. e uygun bir şekilde hazırlanır.

CS GEN.MMEL.135 Ön söz

MMEL ön söz bölümü, EK-5 içerisindeki 5.2. de yer almaktadır.

CS GEN.MMEL.140 Tanımlar ve açıklayıcı notlar

MMEL, kullanıcıya (MEL derlenirken esasen işletmecidir) yer alan parçaların amacını eksiksiz ve doğru anlamasını sağlayacak yeterli tanımları ve açıklayıcı notları içerir.

EK-5 içerisindeki 5.3. de tüm MMEL' ler için ortak olan tanımları belirtir. Belirli uçak türlerine özgü diğer tanımlar da gerektiğinde eklenir. Ayrıca bir terim, ifade veya kısaltma vs.nin amacının gerekli olduğu ya da tavsiye edildiği durumlarda ayrıntılı açıklayıcı notlar sağlanır.

CS GEN.MMEL.145 Parça listesi

Jenerik MMEL, gayri faal olmasına müsaade edilen tüm parçaları içermektedir.

MMEL parça listesi, başvuru sahibi tarafından doğrudan jenerik MMEL'den uçak türüne uygun bir şekilde EK-6 içerisindeki listeden parçalar seçilerek oluşturulur.

Farklı konfigürasyonlara sahip bir uçak için başvuru sahibi çeşitli konfigürasyonlar için geçerli tüm parçaları seçip her bir etkilenen parça altına "(kuruluysa)" ifadesi ekleyebilir.

Seçili parçalar için başvuru sahibi Uçak Uçuş El Kitabı (AFM) Sınırlamalarından ve Uçuşa Elverişlilik Direktiflerinden sapmadığını doğrular.

Ayrıca başvuru sahibi acil durum prosedürünün arızalı parça olmadan gerçekleştirilebileceğini kanıtlamadıkça acil durum prosedürleri içerisinde yer alan parçalar için muafiyet sunulmadığını teyit eder.

(örneğin VHF İletişim Sistemleri).

Terminoloji ile tanımlama araçlarının mevcut uçak belgeleri ile mümkün olduğunca tutarlı olması sağlanmalıdır.

CS GEN.MMEL.150 Operasyon ve bakım prosedürleri

Parça listesinden seçilen parçalar için gerekli olan operasyon ve bakım prosedürleri, başvuru sahibi tarafından hazırlanıp son kullanıcıların hizmetine sunulur.

BÖLÜM 2 CS-GEN-MMEL İÇİN REHBER DOKÜMAN

GM1 GEN.MMEL.105 Tanımlar

GAYRİ FAAL

(a) Bazı parçalar, arızaya dayanıklı şekilde tasarlanmıştır ve bakım amacıyla arıza mesajlarını ileten bilgisayarlar tarafından izlenmektedir. Bu tür mesajların varlığı, parçanın gayri faal olduğu anlamına gelmez.

(b) MMEL tarafından özellikle müsaade edilmedikçe parçanın kaldırılmaması gerektiğine dikkat edilmelidir.

PARÇA

(a) Bu Sertifikasyon Şartnamesi kapsamında bir bileşenin, ekipman veya aletin bir parçası olduğu kabul edilir.

(b) Bu Sertifikasyon Şartnamesi kapsamında bir sistemin, bir fonksiyonu yerine getiren ekipmanlardan ve/veya aletlerden oluşan bir bütün olduğu kabul edilir.

GM1 GEN.MMEL.107 Sunulan verilerin durumu

(a) MEL'in hafifletici doğası nedeniyle, MMEL'in zorunlu veri olduğu gerçeği, MEL'in MMEL'den daha az kısıtlayıcı olmayacağı, ancak daha fazla kısıtlayıcı olabileceği ifade edilir. MEL, MMEL'den daha az parça içerebilir.

(b) Başvuru sahibi tarafından sunulan operasyon ve bakım prosedürlerinin içeriği, son kullanıcı için tavsiye edilir.

GM1 GEN.MMEL.110 MMEL amacı

UÇAK TÜRÜ

Bir MMEL dokümanı birden fazla uçak tipini, ortak özellikler üzerinden fayda sağlanması ve her bir parçanın uygulama kapsamının açıkça belirtilmesi kaydıyla kapsayabilir.

GM2 GEN.MMEL.110 MMEL amacı

EMNİYET DIŞI PARÇALAR

Listede yer almayan tüm parçaların, emniyet dışı parçalar olarak kabul edilmedikçe faal durumda olması gerekmektedir.

Emniyet dışı parçalar, GM1 ORO.MLR.105(a) içerisinde tanımlanmıştır.

Yolculara kolaylık, konfor veya eğlence sağlama amaçlı parçalar ve bakım amacıyla yalnızca yerde kullanılan ekipmanlar emniyet dışı parçalar kapsamına girer. Yolcuların kolaylığı, konforu veya eğlenmesi kapsamına; hava taşıt mutfağı ekipmanları, film ekipmanları, stereo ekipmanları, baş üstü okuma lambaları gibi parçalar dahil edilebilir.

Başvuru sahibi tarafından istenilmediği sürece, emniyet dışı parçaların MMEL'e dâhil edilmesi gerekmez.

GM1 GEN.MMEL.130 MMEL kapak sayfası, kontrol sayfası ve "Genel" bölümü

Başvuru sahibi, içindekilere ve yapıya uyulması kaydıyla kendi istediği formatı da teklif edebilir.

GM1 GEN.MMEL.150 Operasyon ve bakım prosedürleri

Prosedürlerin performans dönemselliği, ya MMEL içerisinde genel hatlarıyla ya da ilişkili dispeç koşulları içerisinde özel olarak açıklanmalıdır. Bakım deaktivasyon prosedürleri normalde ilgili parçaya ilk uçuştan önce bir kez uygulanmalıdır. Bakım doğrulama prosedürleri dönemselliği farklılık gösterebilir ve bu sebeple MMEL içerisinde açıklanmalıdır. Operasyon prosedürleri normalde aksi belirtilmedikçe her uçuştan önce uçuş mürettebatı üyeleri tarafından uygulanmalı ve kabul edilmelidir.

Operasyon ve bakım prosedürleri, mevcut operasyon ve bakım talimatları (uçak uçuş el kitabı, uçak bakım el kitabı, ağırlık ve denge el kitabı, vs.) ile tutarlı olmalıdır.

5.1. MMEL kapak sayfası, kontrol sayfası ve genel bölümü

5.1.1. Kapak Sayfası

[Supplemental/Type Certificate Holder Name]

[Aeroplane Type]

MASTER MINIMUM EQUIPMENT LIST

ORIGINAL: [Effective date]

(and if applicable)
REVISION [Number]: [Effective date]

[Supplemental/Type Certificate Holder document reference]

5.1.2. Kontrol Sayfası

MASTER MINIMUM EQUIPMENT LIST

Type:

[Aeroplane type/model]

(and if applicable)

[Aeroplane commercial name]

ORIGINAL ISSUE: [Effective date]

(and if applicable)

REVISION [Number]: [Effective date]

This Master Minimum Equipment List (MMEL) is issued by [Supplemental/Type Certificate Holder name] at the above revision and is approved by the European Aviation Safety Agency (EASA) as the basis for the preparation and approval of individual operator's Minimum Equipment List (MEL) for aircraft of this model, as certified by and operated under the jurisdiction of EASA Member States' national authorities.

Issue: [Revision number]

Date: [Date of approval by the Agency]

Signed by: [Agency's signature and stamp]

5.1.3. İçindekiler Tablosu

GENERAL

TABLE OF CONTENTS

[Table of contents with page numbering]

5.1.4. Geçerli Sayfaların Listesi

LIST OF EFFECTIVE PAGES

Section	Page No	Revision No	Applicability
Cover page			
GENERAL			
ITEM LIST			
[ATA chapter]			

5.1.5. Revizyonların Listesi

LIST OF REVISIONS

ORIGINAL ISSUE: [Effective date]

(If applicable)

REVISION [Number]: [Effective date]

Purpose of revision [Number]:

[Short description of the main purpose of the revision]

GENERAL

[Changes done in the GENERAL section]

ITEM LIST

[Changes done in the ITEM LIST section]

5.2. Ön söz

PREAMBLE

Introduction

The following is applicable for operators under European air operations regulations (Part-CAT, Part-NCO, Part-SPO). Paragraph 1.c.2 of Annex I to Article 5 (Essential requirements for airworthiness) of Regulation (EC) No 216/2008 (hereinafter referred to as the 'Basic Regulation') requires that all equipment installed on an aeroplane required for type certification or by operating rules shall be operative. However, paragraph 2.a.3 of Annex IV to Article 8 (Essential requirements for air operations) of the Basic Regulation also allows the use of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interest of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aeroplanes, operation of every system or installed items may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

Purpose and limitations

This Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder or the Supplemental Type Certificate Holder and approved by the Agency. This MMEL includes those items related to airworthiness and air operations regulations, and other items the Agency finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. In order to maintain an acceptable level of safety, the MMEL establishes limitations on the duration of and conditions for operation with inoperative items. Unless specifically permitted by this MMEL, an inoperative item may not be removed from the aeroplane.

Utilisation

The MMEL is the basis for the development of the individual operator's MEL which takes into consideration the operator's particular aeroplane equipment configuration and operational conditions.

An operator's MEL may differ in format from the MMEL, but shall not be less restrictive than the MMEL. The individual operator's MEL, when approved or declared as applicable, allows operation of the aeroplane with inoperative items for a certain period of time until rectification can be accomplished.

The MEL cannot deviate from Airworthiness Directives or any other additional mandatory requirements. It is important to remember that all items related to airworthiness and operational regulations of the aeroplane not listed on the MMEL shall be operative.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as prescribed in this MMEL shall be specified in the MEL to ensure that an acceptable level of safety is maintained. It is important that rectifications be accomplished at the earliest opportunity.

When an item is discovered to be inoperative, it is reported by making an entry in the continuing airworthiness record system or the operator's technical log as applicable. Following sufficient fault identification, the item is then either rectified or may be deferred following the MEL or other approved means of compliance acceptable to the competent authority and the

Agency prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aeroplane is in a condition for safe operation with items inoperative.

Prior to operation, any inoperative item should be made known to the crew in accordance with the continuing airworthiness requirements. For commercial air transport, acceptance by the crew is required.

Operators shall establish a controlled and sound rectification programme including the parts, personnel, facilities, procedures and schedules to ensure timely rectification.

Operators should include guidance in the MEL to deal with any failures which occur between the commencement of the flight and the start of the take-off.

When developing the MEL, compliance with the stated intent of the preamble, definitions and the conditions and limitations specified in this MMEL is required.

Multiple inoperative items

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative items shall also be considered. Wherever possible, account has been taken in this MMEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on aeroplane operation and crew workload shall be considered.

Rectification intervals

For commercial operations under Part-CAT or Part-SPO, the operators may be allowed by their competent authority a one-time extension of the applicable rectification intervals B, C or D for the same duration as that specified in their MEL.

This extension policy is only applicable when the applicant has taken it into account during the development of this document.

For operations under Part-NCO, the rectification intervals indicated in the item list are only recommended and should be taken as guidelines as the maximum period of time during which an item would remain inoperative. It is important that repairs be accomplished at the earliest opportunity.

5.3. Tanımlar ve açıklayıcı notlar

(a) The systems in the MMEL are described and identified in accordance with the numbering system used in the aeroplane manufacturer's documentation.

(b) The MMEL item list provides the list of pieces of equipment/system/function which may be inoperative prior to dispatch. Items are gathered by relevant chapter and provided under a table format. The structure of the MMEL item list table is as follows:

(1) **System and sequence numbers item** — column No 1 — details equipment, system, component or function listed.

The applicability for each item may vary based on the type of operation, and is given, when needed, as follows:

(CAT): for Commercial Air Transport, regulated by Part-CAT;

(SPO): for Specialised Operations, regulated by Part-SPO;

(NCO): for Non-Commercial Operations, regulated by Part-NCO; and

(ALL): for all above types of operations.

(2) **Rectification interval** — column No 2 — Inoperative items or components, deferred in accordance with the MEL, must be rectified at or prior to the rectification intervals established by the following letter designators:

Category A

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the MMEL.

Where a time period is specified in days, the interval excludes the day of discovery.

Where a time period is specified in other than days, it shall start at the point when the defect is deferred in accordance with the operator's approved MEL.

Category B

Items in this category shall be rectified within three (3) calendar days, excluding the day of discovery.

Category C

Items in this category shall be rectified within ten (10) calendar days, excluding the day of discovery.

Category D

Items in this category shall be rectified within one hundred and twenty (120) calendar days, excluding the day of discovery.

(3) **Number installed** — column No 3 — is the number (quantity) of items normally installed in the aeroplane. This number represents the aeroplane configuration considered in developing this MMEL. Should the number be a variable or not applicable, a number is not required; a '–' is then inserted.

Where the MMEL shows a variable number installed, the MEL should reflect the actual number installed, if applicable.

(4) **Number required for dispatch** — column No 4 — is the minimum number (quantity) of items required for operation provided the conditions specified are met. Should the number be a variable or not applicable, a number is not required; a '–' is then inserted.

Where the MMEL shows a variable number required for dispatch, the MEL should reflect the actual number required for dispatch, as applicable, or an alternate means of configuration control approved by the competent authority.

(5) **Remarks or exceptions** — column No 5 — include statements either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations), notes, (M) and/or (O) symbols, as appropriate for such operation.

'(M)' indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally, these procedures are accomplished by maintenance personnel, however, other personnel may be qualified and authorised to perform certain functions. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's MEL or other documentation, endorsed by the operator and made available to the person(s) authorised to perform the task(s).

'(O)' indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally, these procedures are accomplished by the flight crew, however, other personnel may be qualified and authorised to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's MEL or other documentation, endorsed by the operator and made available to the person(s) authorised to perform the task(s).

'Notes' provide additional information for flight crew or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the dispatch conditions.

Placarding: each inoperative item must be placarded, as applicable, to inform and remind crew members and maintenance personnel of the items' condition. To the extent practical, placards should be located adjacent to the control or indicator for the item affected, however, unless otherwise specified, placard wording and location will be determined by the operator. These placards do not relieve the operator from the obligation of writing an inoperative item entry into the appropriate document, such as a logbook.

(c) A vertical bar (change bar) in the margin indicates a modification in the adjacent text for the current revision of that section only. The change bar is dropped at the next revision of that page.

(d) Applicability: when a variant of page is required for certain aeroplanes, the special applicability is indicated at the lower part of the relevant page as well as in the list of effective pages.

(e) Definitions for the purpose of this MMEL:

'Aeroplane Flight Manual (AFM)' is the document required for type certification and approved by the Agency.

'Alternate procedures are established and used' or similar statement, shall be taken to mean that alternate procedures (if applicable) to the affected process must be drawn up by the operator as part of the MEL approval process, so that they have been established before the MEL document has been approved. Such alternate procedures are normally included in the associated operations (O) procedure.

'Any in excess of those required by regulations' means that the item required by applicable legislation (e.g. Regulation Air Operations, Single European Sky legislation or applicable airspace requirements) must be operative, and only excess equipment may be inoperative. When the item is not required, it may be inoperative for the time specified by

its rectification interval category. Whenever this condition is used in the MMEL, the applicable regulations for the intended flight routes and the resulting dispatching restrictions need to be clarified at operator's MEL level.

'As required by (operational) regulations' means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the applicable legislation (Regulation Air Operations, Single European Sky legislation or applicable airspace requirements). When the item is not required, it may be inoperative for the time specified by its rectification interval category.

'Calendar day': a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator. All calendar days are considered to run consecutively.

'Commencement of flight' is the point when an aeroplane begins to move under its own power for the purpose of preparing for take-off.

'Considered inoperative', as used in the dispatch conditions, means that the item must be treated for dispatch, taxi and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures, and observing the rectification interval.

'Daylight' corresponds to the period between the beginning of morning civil twilight and the end of evening civil twilight relevant to the local aeronautical airspace; or such other period, as may be prescribed by the appropriate authority.

'Day of discovery' means the calendar day that a malfunction was recorded in the aeroplane maintenance record/logbook.

'Flight' (for the purposes of this MMEL): a flight is the period of time between the moment when an aeroplane begins to move by its own means, for the purpose of preparing for take-off, until the moment the aeroplane comes to complete stop on its parking area, after the first landing.

'Icing conditions' means an atmospheric environment that may cause ice to form on the aeroplane or in the engine(s) as defined in the AFM.

'If installed' means that the item is either optional or is not required to be installed on all aeroplanes covered by the MMEL.

'Inoperative' means that the item does not accomplish its intended purpose or does not consistently function within its approved operating limits or tolerances.

'Intended flight route' corresponds to any point on the route, including diversions to reach alternate aerodromes required to be selected by the operational rules.

'Is not used' in the dispatch conditions, remarks or exceptions for an MMEL item may specify that another item relieved in the MMEL 'is not used'. In such cases, crew members should not activate, actuate, or otherwise utilise that item under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operations-related provisions, (O) procedures and rectification interval must be complied with. An additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crew members that an item is not to be used under normal operations.

'Item' means component, instrument, equipment, system, or function.

'Master Minimum Equipment List (MMEL)' means a document approved by the Agency that establishes the aeroplane items allowed to be inoperative under conditions specified therein for a specific type of aeroplane.

'Minimum Equipment List (MEL)' means a document approved by or declared to the competent authority, as applicable, that authorises an operator to dispatch an aeroplane with aeroplane items inoperative under the conditions specified therein.

'Visible moisture' means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, mist, rain, sleet, hail, or snow.

Parça Listesi

ATA CHAPTER: 21 Air conditioning						**PAGE: 21-x**
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
21-20-1	**Fresh air ventilation outlets**					
21-20-1A	(ALL)	C	–	1	Any in excess of one may be inoperative.	
21-30-1	**Pressurisation controller**					
21-30-1A	(CAT)	C	–	0	(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*	
21-30-1B	(NCO/SPO)	D	–	0	(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*	
(continued)						

ATA CHAPTER: 21 Air conditioning					PAGE: 21-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
21-30-2	**Outflow/safety valves**				
21-30-2A	(CAT)	C	–	–	(M)(O) May be inoperative provided: (a) affected valve(s) is (are) secured OPEN or removed, (b) flight is conducted unpressurised, and (c) the regulations requiring oxygen use are complied with. *(M) Procedures must be established to secure the valve(s) open or remove it (them).* *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
21-30-2B	(NCO/SPO)	D	–	–	(M)(O) May be inoperative provided: (a) affected valve(s) is(are) secured OPEN or removed, (b) flight is conducted unpressurised, and (c) the regulations requiring oxygen use are complied with. *(M) Procedures must be established to secure the valve(s) open or remove it(them).* *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
(continued)					

ATA CHAPTER: 21 Air conditioning						PAGE: 21-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch		(5) Remarks or exceptions
(continued)						
21-30-3	**Cabin altitude indicator**					
21-30-3A	(ALL)	D	1	0		(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
21-30-4	**Cabin altitude warning system**					
21-30-4A	(ALL)	C	1	0		May be inoperative provided the flight is conducted at or below cabin altitude warning limit, but not above 10 000 feet MSL.
21-30-4B	(ALL)	D	1	0		(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
(continued)						

ATA CHAPTER: 21 Air conditioning					PAGE: 21-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
21-30-5	**Cabin rate of climb indicator**				
21-30-5A	(ALL)	D	1	0	(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
21-30-6	**Differential pressure indicator**				
21-30-6A	(ALL)	D	1	0	(O) May be inoperative provided: (a) the flight is conducted unpressurised, and (b) the regulations requiring oxygen use are complied with. *(O) Procedures must be established to ensure the aeroplane is operated unpressurised.*
21-40-1	**Heating system**				
21-40-1A	(CAT/SPO)	C	–	0	May be inoperative.
21-40-1B	(NCO)	D	–	0	May be inoperative.
	(continued)				

ATA CHAPTER: 21 Air conditioning					PAGE: 21-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
21-50-1	**Air conditioning system**				
21-50-1A	(CAT/SPO)	C	1	0	(M) May be inoperative. *(M) Procedures must be established to ensure the inoperative air conditioning system does not have any adverse effect on engine operation, pressurisation or instruments cooling.*
21-50-1B	(NCO)	D	1	0	(M) May be inoperative. *(M) Procedures must be established to ensure the inoperative air conditioning system does not have any adverse effect on engine operation, pressurisation or instruments cooling.*

Additional considerations:

- **21-20-1A Fresh air ventilation outlets:** Cockpit and cabin compartments must be suitably ventilated through an adequate supply of fresh air.
- For unpressurised flights, the (O) procedure should indicate that when oxygen on-board is not sufficient or oxygen is not used, the flight shall be performed at or below 10 000 ft Mean Sea Level (MSL).

ATA CHAPTER: 22 Auto-flight						PAGE: 22-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
22-10-1	**Autopilot**					
22-10-1A	(SPO/NCO)	D	–	0	(M)(O) May be inoperative provided: (a) autopilot is deactivated as applicable, (b) AFM limitations are observed, and (c) operations do not depend upon its use. *(M) Procedures must be established to ensure the autopilot will not engage during the flight.* *(O) Procedures must establish any applicable restrictions (e.g. approach and landing minima, en-route operations, etc.).*	
22-10-1B	(CAT)	B	–	0	(M)(O) May be inoperative provided: (a) autopilot is deactivated as applicable, (b) the flight is conducted under VFR for single pilot operations, (c) AFM limitations are observed, and (d) operations do not depend upon its use. *(M) Procedures must be established to ensure the autopilot will not engage during the flight.*	
(continued)						

ATA CHAPTER: 22 Auto-flight					PAGE: 22-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					*(O) Procedures must establish any applicable restrictions (e.g. approach and landing minima, en-route operations, etc.).*
22-10-2	**Autopilot disconnect functions — Quick release controls**				
22-10-2A	(ALL)	C	–	1	(O) Any in excess of one may be inoperative provided: (a) the operative one is on the pilot flying side, and (b) approach and landing minima do not require use of the autopilot. *(O) Procedures must establish any applicable restrictions (e.g. approach and landing minima, en-route operations, etc.).*
22-10-2B	(ALL)	B	–	0	May be inoperative provided autopilot is not used (refer to item 22-10-1).
(continued)					

ATA CHAPTER: 22 Auto-flight					PAGE: 22-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
22-10-4	**Yaw damper**				
22-10-4A	(ALL)	C	1	0	(M) May be inoperative provided yaw damper is independent and unrelated to autopilot operation. *(M) Procedures must be established to ensure no electrical or mechanical fault exists that would have an adverse effect on any flight control system.*
22-10-4B	(ALL)	-	1	0	May be inoperative provided autopilot is not used (refer to item 22-10-1).

Additional considerations:

- **22-10-1 Autopilot:** Any increase in crew workload has to be considered for the intended operations. Any additional limitations, such as flight duration, may result from this consideration.
- **22-10-1B Autopilot:** Depending upon the use of the autopilot in routine procedures, single pilot CAT operations may be restricted to day VMC only.
- **22-10-4 Yaw damper:** AFM limitations must be complied with, if any.

ATA CHAPTER: 23 Communications						PAGE: 23-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
23-10-1	**Headsets**					
23-10-1A	(NCO)	D	–	0	May be inoperative or missing provided procedures do not depend upon its use.	
23-10-1B	(ALL)	D	–	–	Any in excess of one for each flight crew member may be inoperative or missing. Note: A headset consists of a communication device which includes two earphones to receive and a microphone to transmit audio signals to the aeroplane's communication system.	
23-10-2	**Audio selector panels**					
23-10-2A	(ALL)	D	–	–	Any in excess of one for each flight crew member may be inoperative or missing.	
23-10-2B	(ALL)	D	–	0	(O) May be inoperative provided: (a) the flight is conducted under VFR, and (b) alternate procedures are established and used for ensuring required communication.	
	(continued)					

ATA CHAPTER: 23 Communications					PAGE: 23-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				*(O) Procedures must be established to ensure required communication.*
23-10-3	**Flight crew compartment speakers**				
23-10-3A	(SPO/NCO)	C	–	0	(O) May be inoperative provided alternate means are available and used for ensuring the required communication. *(O) Procedures must be established to ensure required communication*
23-10-3B	(CAT)	C	–	0	May be inoperative provided: (a) one headset is operative and used by each flight crew member, and (b) a spare operative headset is readily available in the flight crew compartment.
23-10-4	**Handheld microphones**				
23-10-4A	(SPO/NCO)	C	–	0	May be inoperative provided one headset is operative and used by each flight crew member.
23-10-4B	(CAT)	C	–	0	May be inoperative provided: (a) one headset is operative and used by each flight crew member, and (b) a spare operative headset is readily available in the flight crew compartment.
	(continued)				

ATA CHAPTER: 23 Communications					PAGE: 23-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
23-10-5	**Stick/yoke mounted push-to-talk switches**				
23-10-5A	(NCO)	D	–	0	May be inoperative provided associated handheld microphone is operative.
23-10-5B	(SPO/CAT)	D	–	0	May be inoperative provided: (a) the flight is conducted under day VFR, and (b) associated handheld micro-phone is operative.
23-11-1	**Long range communication systems**				
23-11-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative.
23-12-1	**VHF communication systems**				
23-12-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative.
23-20-1	**Datalink**				
23-20-1A	(ALL)	D	–	0	May be inoperative provided that procedures do not require its use.
	(continued)				

ATA CHAPTER: 23 Communications						PAGE: 23-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
23-30-1	**Public address system**					
23-30-1A	(ALL)	D	1	0	May be inoperative provided procedures do not depend upon its use.	
23-30-1B	(ALL)	C	1	0	(O) May be inoperative provided alternate procedures are established and used. *(O) Procedures must be established to provide alternate means for communication between the flight crew compartment and the cabin, in normal and emergency situations.*	
23-40-1	**Flight crew interphone system**					
23-40-1	(ALL)	D	-	-	Any in excess of those required may be inoperative.	

Additional considerations:

- **23-10-2 Audio selection panels:** There may be components of the audio control panel inoperative; however, the panel is still adequate for flight. The item does not address sub-components, and it is considered the pilot-in-command's decision to dispatch with necessary equipment operative.
- **23-10-3 Flight crew compartment speakers:** It should be ensured that the affected flight crew compartment speaker is not used for crew intercommunication when smoke masks are used unless single pilot operations are conducted. Indeed, with smoke masks on, a typical installation has the pilot talking through the co-pilot's speaker and the co-pilot through the pilot's speaker. If there are emergency procedures (e.g. smoke) which require the crew to establish communication, then relief for both cannot be granted, but depending on flight test results relief for one may be possible.

All aural alerts, messages and other communication which are normally routed through the flight crew compartment speakers should remain audible through the headsets.

— **23-30-1 Public address system:** 23-30-1B: The alternate procedures will have to be developed to account for any procedures based on the use of the public address system, particularly in areas such as lavatories.

ATA CHAPTER: 24 Electrical						**PAGE: 24-x**
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
24-40-1	**External power system**					
28-40-1A	(ALL)	D	1	0	May be inoperative.	

ATA CHAPTER: 25 Equipment and furnishings						PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
25-11-1	**Flight crew compartment seats**					
25-11-1-1	**Power adjustments**					
25-11-1-1A	(ALL)	D	–	0	May be inoperative.	
25-11-1-2	**Manual adjustments**					
25-11-1-2-1	Horizontal					
25-11-1-2-1A	(ALL)	C	–	0	(M) May be inoperative provided: (a) the affected seat is secured and locked, (b) the position is acceptable to the flight crew member, and (c) the seat position when the seat is used allows a full travel of the flight controls. *(M) Procedures must be established to secure the seat position.*	
25-11-1-2-2	Vertical					
25-11-1-2-2A	(ALL)	C	–	0	May be inoperative provided the associated power adjustment of the affected seat is operative.	

(continued)

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-11-1-2-2B	(ALL)	C	–	0	(M) May be inoperative provided: (a) the affected seat is secured or locked, and (b) the position is acceptable to the flight crew member. *(M) Procedures must be established to secure the seat position.*
25-11-1-3	**Other adjustments except horizontal and vertical adjustments**				
25-11-1-3A	(ALL)	C	–	0	(M) May be inoperative provided: (a) the affected seat is secured or locked, and (b) the position is acceptable to the flight crew member. Note: If an inoperative armrest hinders an emergency evacuation or any other flight crew compartment duties, it should be removed. *(M) Procedures must be established to secure the seat position.*
(continued)					

(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-11-1-4	**Safety harnesses**				
25-11-1-4A	(ALL)	C	–	1	Any in excess of one may be inoperative provided: (a) the flight is conducted in single pilot operations, and (b) the affected seat is not occupied.
25-11-1-5	**Crew seat armrest**				
25-11-1-5A	(ALL)	C	–	0	(M) May be inoperative provided: (a) it doesn't hinder emergency egress, and (b) it doesn't block access to the flight controls or restrict any other flight deck duties. *(M) Procedures must be established to remove an inoperative armrest if it may harm the crew member.*
25-21-1	**Passenger seats**				
25-21-1A	(ALL)	D	–	–	(M) May be inoperative provided: (a) inoperative seat does not block an emergency exit, (b) inoperative seat does not restrict any passenger from access to the main aeroplane aisle, and (c) affected seat(s) are blocked and placarded 'DO NOT OCCUPY'.
(continued)					

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					Note: A seat with an inoperative or missing occupant restraint system (seat belt, safety harness, as applicable) is considered inoperative. *(M) Procedures must be established to:* — *provide guidance for identifying the affected seat(s), and* — *provide a practical means of prohibiting the use of the affected seat(s).*
25-21-1-1	Recline functions				
25-21-1-1A	(ALL)	D	–	–	(M) May be inoperative and seat occupied provided the seat is secured in the take-off and landing position. *(M) Procedures must be established to provide a practical means of securing the seat in the take-off and landing position.*
25-21-1-1B	(ALL)	C	–	–	May be inoperative provided the seat back is immovable in the take-off and landing position.
25-21-1-2	Under seat baggage restraining bars				
(continued)					

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-21-1-2A	(ALL)	D	–	–	May be inoperative or missing provided: (a) baggage is not stowed under associated seat, and (b) associated seat is placarded 'DO NOT STOW BAGGAGE UNDER THIS SEAT'.
25-21-1-3	Passenger seat armrests with recline control mechanism				
25-21-1-3A	(ALL)	D	–	–	(M) May be inoperative, damaged or missing, provided that: (a) armrest does not block an emergency exit, (b) armrest is not in such a position that it restricts any passengers from accessing the aeroplane's aisle, and (c) if the armrest is missing, associated seat is secured in full upright position. *(M) Procedures must be established to provide a practical means of securing the associated seat in the full upright position.* *(M) Procedures must be established to remove any damaged armrest which may harm the passenger.*
(continued)					

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-21-1-4	Passenger seat armrests without recline control mechanism				
25-21-1-4A	(ALL)	D	–	–	(M) May be inoperative, damaged or missing, provided that: (a) armrest does not block an emergency exit, and (b) armrest is not in such a position that it restricts any passengers from accessing the aeroplane's aisle. *(M) Procedures must be established to remove any damaged armrest which may harm the passenger.*
25-21-1-5	Swivel/travel mechanisms				
25-21-1-5A	(ALL)	D	–	–	(M) May be inoperative provided: (a) associated seat is secured in the take-off and landing position, and (b) associated seat does not restrict emergency egress. *(M) Procedures must be established to provide a practical means of securing the associated seat in the take-off and landing position.*
(continued)					

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-21-1-5B	(ALL)	C	–	–	May be inoperative provided the associated seat is immovable in the take-off and landing position.
25-60-1	**Electrical torches/flashlights (incl. holders)**				
25-60-1A	(SPO/NCO)	D	–	0	May be inoperative or missing for daylight operations.
25-60-1B	(ALL)	C	–	–	Any in excess of those required for the intended flight may be inoperative or missing.
25-60-2	**Life rafts**				
25-60-2A	(ALL)	D	–	–	(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the aeroplane, and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative. *(M) Procedures must be established to:* — *provide instructions to placard the inoperative unit and its installed location, and* — *secure the inoperative unit in an out-of-sight location if possible.*
(continued)					

ATA CHAPTER: 25 Equipment and furnishings						PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
	(continued)					
25-60-3	**Survival equipment**					
25-60-A	(ALL)	D	–	–	(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the aeroplane and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative. *(M) Procedures must be established to:* — *provide instructions to placard the inoperative unit and its installed location, and* — *secure the inoperative unit in an out-of-sight location.*	
25-61-1	**Crash axes and crowbars**					
25-61-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative or missing.	
25-62-1	**First-aid kits**					
25-62-1A	(ALL)	D	–	1	Any in excess of one may be incomplete or missing.	
	(continued)					

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
25-63	**Emergency locator transmitters**				
25-63-1	**Automatic emergency locator transmitters ELT(AF)/ELT(AP)/ ELT(AD)**				
25-63-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative.
25-63-1B	(ALL)	A	–	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.
25-63-2	**Survival emergency locator transmitters ELT(S)**				
25-63-2A	(NCO)	D	–	0	Any in excess of those required may be inoperative or missing.
25-63-2B	(CAT/SPO)	D	–	–	(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the aeroplane and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative. *(M) Procedures must be established to:* — *provide instructions to placard the inoperative unit and its installed location,* — *secure the inoperative unit in an out-of-sight location.*
	(continued)				

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
25-63-2C	(NCO)	A	–	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.
25-63-3	**Personal locator beacons (PLB)**				
25-63-3A	(NCO)	D	–	–	Any in excess of those required may be inoperative or missing.
25-63-3A	(NCO)	A	–	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.
25-64-1	**Life jackets (or equivalent individual floatation devices)**				
25-64-1A	(ALL)	D	–	–	(M) Any in excess of those required for the intended flight may be inoperative or missing provided: (a) required distribution of operative units is maintained throughout the aeroplane, and (b) the inoperative unit is removed from the aeroplane and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative. *(M) Procedures must be established to:* — *provide instructions to placard the inoperative unit and its installed location, and* — *secure the inoperative unit in an out-of-sight location.*

Additional considerations:

— **25-11-1-4 Flight crew compartment seats — Safety harnesses:** Padding may be part of the ETSO/TSO and, therefore, required.

— **25-21-1 Passenger seats:**

- 25-21-1A:

  Any damage to passenger seats and components must not be detrimental to passenger safety.

  This item and associated sub-items do not include tray tables that may, if inoperative in the non-stowed position, render the seat by itself or the seat row (behind the seat to which the tray table is attached) inoperative. A tray table inoperative in the stowed position is considered as a passenger convenience item.

  For single aisle configurations, the affected seat(s) may include the seat behind and/or the adjacent outboard seats.

- 25-21-1-1:

  Any damage to passenger seats and components must not be detrimental to passenger safety.

  The seat recline position can be failed in the take-off and landing position other than the full upright position, when the seat has been certified to this alternate position.

- 25-21-1-2:

  Any damage to passenger seats and components must not be detrimental to passenger safety.

  The certification basis of the seat or seat assembly will need to be verified to determine whether an inoperative or missing under seat baggage restraining bar affects the integrity of the seat.

- 25-21-1-3/4/5:

  Any damage to passenger seats and components must not be detrimental to passenger safety.

- **25-63-1 Automatic emergency locator transmitters ELT(AF)/ELT(AP)/ ELT(AD) and**
  25-63-2 Survival Emergency Locator Transmitters ELT(S):

  An emergency locator transmitter (ELT) is a generic term describing equipment which broadcasts distinctive signals on designated frequencies and, depending on the application, may be activated by impact or manually. An ELT is one of the following:

  Automatic fixed (ELT(AF)): an automatically activated ELT which is permanently attached to an aeroplane;

  Automatic portable (ELT(AP)): an automatically activated ELT which is rigidly attached to an aeroplane but readily removable from the aeroplane;

  Automatic deployable (ELT(AD)): an ELT which is rigidly attached to the aeroplane and which is automatically deployed and activated by impact and, in some cases, also by hydrostatic sensors. Manual deployment is also provided; and

Survival ELT (ELT(S)): an ELT which is removable from an aeroplane, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

An ELT(S) may be activated manually or automatically (e.g. by water activation). It should be designed to be attached to a life raft or a survivor.

ATA CHAPTER: 26 Fire protection					PAGE: 26-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
26-24-1	**Hand fire extinguishers**				
26-24-1A	(ALL)	D	–	–	Any in excess of those required by the operating rules may be inoperative or missing.
25-60-1	**Protective breathing equipment (PBE)**				
25-60-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative or missing provided that the inoperative PBE is placarded inoperative and removed. Note: Inoperative PBE units may be subject to dangerous goods requirements.

ATA CHAPTER: 27 Flight controls					PAGE: 27-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
27-10-1	**Aileron trim tab position indication**				
27-10-1A	(ALL)	C	1	0	(O) May be inoperative provided: (a) tab is visually checked for full range of operation, (b) tab operation is not restricted, and (c) tab is positioned to NEUTRAL (or recommended AFM setting) and appropriate setting is verified by visual inspection prior to each departure.
27-20-1	**Rudder trim tab position indication**				
27-20-1A	(ALL)	C	1	0	(O) May be inoperative provided: (a) tab is visually checked for full range of operation, (b) tab operation is not restricted, and (c) tab is positioned to NEUTRAL (or recommended AFM setting), and appropriate setting is verified by visual inspection prior to each departure.
(continued)					

ATA CHAPTER: 27 Flight controls					PAGE: 27-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
27-30-1	**Elevator trim tab position indication**				
27-30-1A	(ALL)	C	1	0	(O) May be inoperative provided: (a) tab is visually checked for full range of operation, (b) tab operation is not restricted, and (c) tab is positioned to NEUTRAL (or recommended AFM setting), and appropriate setting is verified by visual inspection prior to each departure.
27-31-1	**Electric elevator trim system**				
27-31-1A	(ALL)	C	1	0	(M) May be inoperative provided: (a) manual trim is checked operative, and (b) electric trim is deactivated. *(M) Procedures must be established to:* — *deactivate the electric trim system, and* — *ensure manual trim is not affected.*
(continued)					

ATA CHAPTER: 27 Flight controls						PAGE: 27-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
27-50-1	**Flaps position indication**					
27-50-1A	(ALL)	C	1	0	(O) May be inoperative provided: (a) prior to each flight, flaps are visually checked for full travel, (b) flaps operation is not restricted, and (c) flaps are visually checked for proper setting prior to each departure.	
27-70-1	**Gust lock**					
27-70-1A	(ALL)	C	1	0	(M) May be inoperative provided gust lock is secured unlocked. *(M) Procedures must be established to secure the gust lock unlocked.*	

Additional considerations:

- **27-31-1 Electric elevator trim system:** Autopilot, if installed, may have to be disconnected.
- **27-50-1 Flaps position indication:** Crew should be able to visually check the flaps position without having to leave the flight deck.
- **27-70-1 Gust lock:** AFM limitations, if any, must be respected with inoperative gust lock. Any other systems impacted by the gust lock failed in the locked position need to be considered.

ATA CHAPTER: 28 Fuel						PAGE: 28-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
28-40-1	**Fuel quantity indication**					
28-40-1A	(ALL)	C	–	1	(O) Any in excess of one may be inoperative provided a reliable means is established to determine that fuel quantity on board meets the regulatory requirements for flight. *(O) Procedures must be established to determine that fuel quantity on board meets the regulatory requirements for flight.*	

Additional considerations:

— **28-40-1 Fuel quantity indication:** This proposal is made for tanks with interconnected outlets functioning as a single tank, such that individual tanks cannot be isolated. Fuel migration from one wing to the other needs also to be considered.

ATA CHAPTER: 30 Ice & rain protection						PAGE: 30-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
30-00-1	**Inertial separators – Position indicating system**					
30-00-1A	(CAT/SPO)	B	–	0	May be inoperative provided operations are not conducted in known or forecasted icing conditions.	
30-00-1A	(NCO)	C	–	0	May be inoperative provided operations are not conducted in known or forecasted icing conditions.	
30-10-1	**Airframe aerodynamic surface ice protection**					
30-10-1A	(CAT/SPO)	B	–	0	One or more may be inoperative provided operations are not conducted in known or forecasted icing conditions.	
30-10-1B	(NCO)	C	–	0	One or more may be inoperative provided operations are not conducted in known or forecasted icing conditions.	
	(continued)					

ATA CHAPTER: 30 Ice & rain protection					PAGE: 30-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
30-31-1	**Pitot heating system**				
30-31-1A	(CAT)	B	–	1	(O) Any in excess of one may be inoperative provided: (a) operations are conducted under day VMC, (b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and (c) the operative pitot heater is verified operative prior to each flight. *(O) Procedures must be established for required pre-flight check.*
30-31-1B	(CAT)	B	–	0	One or more may be inoperative provided: (a) operations are conducted under day VFR, and (b) operations are not conducted in visible moisture or into known or forecasted icing conditions.
30-31-1C	(NCO/SPO)	B	–	0	May be inoperative provided: (a) operations are conducted under VFR, and (b) operations are not conducted in visible moisture or into known or forecasted icing conditions.
(continued)					

(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
30-31-3	**Static port heating system**				
30-31-3A	(CAT)	C	–	0	May be inoperative provided: (a) operations are conducted under day VFR, and (b) operations are not conducted in known or forecasted icing conditions.
30-31-3B	(CAT)	B	–	1	(O) Any in excess of one may be inoperative provided: (a) operations are conducted under day VMC, (b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and (c) the operative static port heater is verified operative prior to each flight. *(O) Procedures must be established for required pre-flight check.*
30-31-3C	(NCO/SPO)	C	–	0	One or more may be inoperative provided: (a) operations are conducted under day VFR, and (b) operations are not conducted in known or forecasted icing conditions.
(continued)					

ATA CHAPTER: 30 Ice & rain protection					PAGE: 30-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
30-32-1	**Stall warning mounting plate heater**				
30-32-1A	(ALL)	B	–	0	One or more may be inoperative provided: (a) operations are conducted under day VMC, and (b) operations are not conducted in known or forecasted icing conditions.
30-41-1	**Windshield heating/De-icing system**				
30-41-1A	(ALL)	C	–	0	May be inoperative provided operations are not conducted in known or forecasted icing conditions.
30-61-1	**Propeller de-ice/anti-ice system**				
30-61-1A	(CAT/SPO)	B	–	0	One or more may be inoperative provided operations are not conducted in known or forecasted icing conditions.
30-61-1B	(NCO)	C	–	0	One or more may be inoperative provided operations are not conducted in known or forecasted icing conditions.

Additional considerations:

— Relief for the above-mentioned items should be further restricted or removed when the loss of the heating/anti-icing system would impact other systems which are integrated with the considered item.

ATA CHAPTER: 31 Indicating/Recording systems					PAGE: 31-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
31-21-1	**Clock**				
31-21-1A	(ALL)	C	–	0	May be inoperative provided an accurate timepiece is operative on the flight crew compartment indicating the time in hours, minutes and seconds. Note: On the basis that the timepiece required does not need to be approved, an accurate pilot's wristwatch which indicates hours, minutes and seconds is acceptable.
31-22-1	**Hour meter**				
31-22-1A	(ALL)	D	1	0	(O) May be inoperative provided a procedure is established to record flight time. *(O) Procedures must be established to record flight time.*

ATA CHAPTER: 32 Landing gear						PAGE: 32-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch		(5) Remarks or exceptions
32-40-1	**Parking brake**					
32-40-1A	(ALL)	C	1	0		(O) May be inoperative provided a procedure is established to prevent movement of the aeroplane when stopped or parked. *(O) Procedures must be established to prevent movement of the aeroplane when stopped or parked.*

Additional considerations:

— **32-40-1 Parking brake:** This item is only applicable to aeroplanes for which the parking brake is not required by certification.

ATA CHAPTER: 33 Lights						PAGE: 33-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
33-10-1	**Flight crew compartment lighting** (Excluding internally lighted buttons/switches, emergency lights and annunciations)					
33-10-1A	(ALL)	C	–	0	May be inoperative for daylight operations.	
33-10-1B	(ALL)	C	–	–	Individual lights may be inoperative provided: (a) sufficient lighting is operative to make each required instrument control and other device for which it is provided easily readable, and (b) lighting configuration at dispatch is acceptable to the flight crew.	
33-20-1	**Passenger compartment lighting**					
33-20-1A	(ALL)	D	–	0	May be inoperative provided passengers are not carried when operating at night.	
33-20-1B	(ALL)	C	–	–	Individual lights may be inoperative provided lighting configuration at dispatch is acceptable to the flight crew.	

(continued)

ATA CHAPTER: 33 Lights						PAGE: 33-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
33-20-2	**Cabin signs (Fasten seat belt/No smoking)**					
33-20-2A	(ALL)	C	-	0	(O) May be inoperative provided alternate procedures are established and used for briefing passengers.	
33-20-2B	(ALL)	D	–	0	May be inoperative provided no passenger is carried.	
33-41-1	**Navigation/ Position lights**					
33-41-1A	(ALL)	C	–	0	One or more may be inoperative for daylight operations.	
33-41-1B	(ALL)	C	–	–	Any in excess of those required may be inoperative for night operations.	
33-42-1	**Anti-collision light system**					
33-42-1A	(CAT)	C	–	1	Any in excess of one may be inoperative.	
33-42-1B	(NCO/SPO)	C	–	0	One or more may be inoperative for daylight operations.	
(continued)						

ATA CHAPTER: 33 Lights						PAGE: 33-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
33-43-1	**Wing illumination light**					
33-43-1A	(ALL)	D	1	0	May be inoperative for daylight operations.	
33-43-1B	(ALL)	C	1	0	May be inoperative provided operations are not conducted at night into known or forecast icing conditions.	
33-44-1	**Landing lights**					
33-44-1A	(CAT)	B	–	–	50 % of landing lights may be inoperative for night operations.	
33-44-1B	(NCO/SPO)	C	–	1	Any in excess of one may be inoperative for night operation.	
33-44-1C	(ALL)	C	–	0	One or more may be inoperative for daylight operations.	

Additional considerations:

- **33-10-1B Flight deck lighting:** Emergency lighting might need to be taken into consideration.
- **33-20-1C Passenger compartment lighting:** No reference available for the level of required illumination in the cabin.
- **33-20-2 Cabin signs:** A passenger address system might have to be considered.
- **33-42-1 Anti-collision light system:** Strobe lights can be considered as anti-collision lights only if granted by certification.
- **33-44-1 Landing lights:** Alternate dispatch conditions may be proposed based on the use of taxi lights if adequate for the intent of purpose.

- **Additional optional lights:** Additional dispatch relief could be given for optional lights (external courtesy/utility lights, tail logo light, recognition lights).
- **Lighted switches/buttons:** Additional relief could be given on a case-by-case basis in a dedicated item.

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
34-10-1	**Primary airspeed indication**				Note: Standby airspeed indication is not considered as a primary airspeed indication by this guidance.
34-10-1A	(CAT)	C	–	–	May be inoperative provided: (a) a primary independent airspeed indication is available at each required pilot's station. (b) a standby airspeed indication is available.
34-10-1B	(NCO/SPO)	C	–	1	Any in excess of one available at pilot's station may be inoperative, provided it is not associated with emergency procedures.
34-10-2	**Primary altitude indication**				Note: A secondary/standby altitude indication is not considered as a primary altitude indication.
34-10-2A	(CAT)	B	–	–	May be inoperative provided: (a) flight is conducted under VFR, (b) an independent altitude indication is available at each required pilot's station, and (c) an additional independent altitude indication is operative for single pilot operations. Note: For single pilot operations a secondary/standby or off-side indication may satisfy condition (b) or (c) if visibility requirements are met.
	(continued)				

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
34-10-2B	(CAT)	B	–	–	May be inoperative provided: (a) flight is conducted under VFR in sight of the surface, and (b) a primary altitude indication is available at each required pilot's station.
34-10-2C	(NCO/SPO)	C	–	–	May be inoperative provided: (a) flight is conducted under VFR, and (b) an altitude indication is available at each required pilot's station. Note: For single pilot operations a secondary/standby or off-side indication may satisfy condition (b) if visibility requirements are met.
34-10-3	**Turn and slip indicator**				
34-10-3-1	**Turn indication**				
34-10-3-1A	(CAT)	B	–	0	May be inoperative for single pilot operations provided operations are conducted under day VFR.
34-10-3-1B	(ALL)	C	–	0	May be inoperative for single pilot operations provided standby attitude indication is operative.
34-10-3-1C	(NCO/SPO)	C	–	0	May be inoperative for single pilot operations provided operations are conducted under day VFR.
(continued)					

(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
34-10-3-1D	(ALL)	C	–	1	Any in excess of one may be inoperative provided: (a) the operative turn indication is on the pilot flying side, and (b) primary attitude indications are operative at each required pilot's station.
34-10-3-1E	(ALL)	B	–	1	Any in excess of one may be inoperative provided: (a) operations are conducted under day VMC, and (b) primary attitude indications are operative at each required pilot's station.
34-10-3-2	**Slip indicator**				
34-10-3-2A	(ALL)	C	–	1	Any in excess of one may be inoperative provided the operative slip indicator is on the pilot flying side.
34-10-3-2B	(NCO/SPO)	D	–	0	May be inoperative provided operations are conducted under day VFR.
34-10-4	**Vertical speed indicator**				
34-10-4A	(CAT)	C	–	1	Any in excess of one may be inoperative provided the operative VSI is on the pilot flying side.
34-10-4B	(NCO/SPO)	C	–	0	May be inoperative for day VFR operation.
(continued)					

ATA CHAPTER: 34 Navigation						PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch		(5) Remarks or exceptions
	(continued)					
34-10-5	**Outside Air Temperature (OAT) indicator**					
34-10-5A	(ALL)	C	–	0		(O) May be inoperative provided another air temperature indication is operative that is convertible to OAT. *(O) Procedures must be established to provide guidance to the crew to convert the alternate temperature indication in OAT.*
34-10-5B	(ALL)	C	–	0		May be inoperative provided: (a) operations are conducted under VFR, (b) operations are not conducted in known or forecasted icing conditions, and (c) weather reports indicate that at any point of the route intended to be flown, the OAT is within the aeroplane's operating temperature limitations.
34-15-1	**Altitude alerting system**					
34-15-1A	(ALL)	C	–	0		(O) May be inoperative provided the altitude alerting system is not part of the equipment required for intended operation. *(O) Procedures must be established to specify any applicable restriction for operations requiring a specific approval.*
	(continued)					

ATA CHAPTER: 34 Navigation						PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
34-15-2	**Radio altimeter**					
34-15-2A	(ALL)	C	–	0	May be inoperative provided approach minima or operating procedures are not dependent upon its use.	
34-20-1	**Stabilised direction indication**					
34-20-1A	(CAT)	C	–	1	Any in excess of one may be inoperative for single pilot operations provided: (a) a stabilised direction indication is operative on the pilot flying side, and (b) magnetic/standby compass is operative.	
34-20-1B	(CAT)	B	–	1	(O) Any in excess of one may be inoperative provided: (a) operations are conducted under day VFR, (b) the stabilised direction indication is displayed at each required pilot's station, and (c) magnetic/standby compass is operative. *(O) Procedures must be established to ensure adequate configuration of the displays in accordance with the above condition (b).*	
(continued)						

ATA CHAPTER: 34 Navigation						PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
(continued)						
34-20-1C	(NCO/SPO)	C	–	1	Any in excess of one may be inoperative provided a stabilised direction indication is operative on the pilot flying side.	
34-20-1D	(NCO/SPO)	C	–	0	May be inoperative on the pilot flying side for day VFR operations, in sight of the surface with adequate external attitude reference.	
34-20-2	**Primary attitude indication**				Note: A secondary/standby attitude indication is not considered as a primary indication.	
34-20-2A	(CAT)	C	–	1	Any in excess of one may be inoperative for single pilot operations provided the primary attitude indication is operative on the pilot flying side.	
34-20-2B	(CAT)	B	–	1	(O) Any in excess of one may be inoperative provided: (a) operations are conducted under VFR, (b) the primary attitude indication is displayed on both pilots' station, and (c) standby attitude indication is working. *(O) Procedures must be established to ensure adequate configuration of the displays in accordance with the above condition (b).*	
(continued)						

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
34-20-2C	(NCO/SPO)	C	–	1	Any in excess of one may be inoperative for single pilot operations provided the primary attitude indication is operative on the pilot flying side.
34-20-2D	(NCO/SPO)	B	–	0	May be inoperative provided: (a) operations are conducted under VFR, and (b) standby attitude indication is operative.
34-20-2E	(CAT)	B	–	0	May be inoperative for single pilot operations provided: (a) operations are conducted under day VFR in sight of surface with adequate external attitude reference, and (b) a standby attitude indication is operative.
34-20-2F	(NCO/SPO)	C	–	0	May be inoperative for single pilot operations provided operations are conducted under day VFR and in sight of the surface with adequate external attitude reference.
34-20-3	**Standby attitude indication**				
34-20-3A	(ALL)	C	–	0	May be inoperative provided the primary attitude indication is not provided through an electronic display indicator.
(continued)					

ATA CHAPTER: 34 Navigation						PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch		(5) Remarks or exceptions
(continued)						
34-22-1	**Magnetic/Standby compass**					
34-22-1A	(ALL)	B	–	0		May be inoperative for single pilot operations provided: (a) a stabilised direction indication is operative on the pilot flying side, and (b) another source of magnetic heading is available and visible by the pilot flying.
34-22-1B	(ALL)	B	–	0		May be inoperative provided: (a) operations are conducted under day VFR, and (b) two independent stabilised direction indications are operative.
34-22-1C	(ALL)	B	–	0		May be inoperative provided: (a) two independent stabilised direction indications are operative, and (b) another source of magnetic heading is available and visible by the pilot flying.
34-31-1	**Marker beacon**					
34-31-1A	(ALL)	C	–	0		May be inoperative under IFR operations provided approach procedures do not require marker fixes.
34-31-1B	(ALL)	D	–	0		May be inoperative under VFR operations.
(continued)						

ATA CHAPTER: 34 Navigation						PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
	(continued)					
34-32-1	**Approach aids (e.g. ILS, Satellite-Based Augmentation System (SBAS))**					
34-32-1A	(ALL)	B	–	0	May be inoperative under IFR operations provided approaches and missed approaches where navigation is based on the affected item, are not included in the flight plan.	
34-32-1B	(ALL)	D	–	0	May be inoperative under VFR operations.	
34-40-1	**Airborne collision avoidance system (ACAS)**					
34-40-1A	(CAT)	C	–	0	(O)(M) May be inoperative provided: (a) ACAS is deactivated, and (b) operating procedures do not require its use. *(O) Procedures must be established to provide alternate crew procedures, as applicable.* *(M) Procedures must be established to deactivate ACAS.*	
	(continued)					

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
34-40-1B	(NCO/SPO)	D	–	0	(O)(M) May be inoperative provided: (a) ACAS is deactivated, and (b) operations are not conducted in an airspace where ACAS is required. *(M) Procedures must be established to deactivate ACAS.*
34-41-1	**Weather detection system** (Antenna, transceiver, controllers, displays)				
34-41-1A	(CAT unpressurised aeroplanes/SPO unpressurised aeroplanes/NCO)	D	–	0	May be inoperative.
34-41-1B	(CAT pressurised aeroplanes/SPO pressurised aeroplanes)	C	–	0	May be inoperative provided operations are conducted in day VMC.
34-41-1C	(CAT pressurised aeroplanes/SPO pressurised aeroplanes)	C	–	0	May be inoperative provided no thunderstorm or other potentially hazardous weather conditions, regarded as detectable with the airborne weather detection system, are forecasted along the intended flight route.
	(continued)				

(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
34-41-1-1	Wind shear detection/Warning system predictive function				
34-41-1-1A	(ALL)	C	–	0	May be inoperative.
34-43-1	**Terrain awareness warning system (Class B TAWS)**				
34-43-1A	(ALL)	D	–	0	May be inoperative.
34-43-1-1	Modes 1 and 3				
34-43-1-1A	(ALL)	C	–	0	One or more modes may be inoperative provided forward looking terrain avoidance (FLTA) and premature descent alert (PDA) functions are operative.
34-43-1-2	Glideslope deviation (Mode 5)				
34-43-1-2A	(ALL)	B	–	0	May be inoperative.
34-43-1-2B	(ALL)	C	–	0	May be inoperative for day VMC only.
34-43-1-3	FLTA and PDA functions				
	(continued)				

ATA CHAPTER: 34 Navigation				PAGE: 34-x
(1) System & sequence numbers item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)				
34-43-1-3A (ALL)	B	–	0	May be inoperative provided: (a) modes 1 and 3 are operative, and (b) approaches procedures do not require its use.
34-43-1-4 Advisory call-outs				
34-43-1-4A (ALL)	C	–	0	(O) May be inoperative provided: (a) low visibility approaches requiring the use of affected call-outs are not performed, and (b) alternate procedures are established and used. Note: Check flight manual limitations for approach minima. *(O) Procedures must be established to provide alternate crew procedures, as applicable.*
(continued)				

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
34-51-1	**Navigation systems (based on VOR, DME, ADF, Global Navigation Satellite System, Inertial Navigation System)**				
34-51-1A	(CAT)	C	–	–	(O) One or more may be inoperative provided: (a) the navigation systems required for each segment of the intended flight route are operative, and (b) alternate procedures are established and used, where applicable. *(O) Procedures must be established to give alternate procedures in case existing operational procedures are affected.*
34-51-1B	(NCO/SPO)	D	–	–	(O) One or more may be inoperative provided: (a) the navigation systems required for each segment of the intended flight route are operative, and (b) alternate procedures are established and used, where applicable. (O) Procedures must be established to give alternate procedures in case existing operational procedures are affected.
	(continued)				

ATA CHAPTER: 34 Navigation					PAGE: 34-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
	(continued)				
34-54-1	**Secondary Surveillance Radar (SSR) transponder**				
	mode A/C				
34-54-1A	(ALL)	D	–	–	Any in excess of those required by the airspace may be inoperative.
34-54-2	**SSR transponder**				
	mode S				
34-54-2A	(ALL)	D	–	–	Any in excess of those required for the intended flight route may be inoperative. Note : An SSR transponder with an operative mode S function is defined as a transponder which can provide, at least, elementary surveillance capability.
34-54-2B	(ALL)	C	–	0	One or more may be inoperative provided permission is obtained from the Air Navigation Service Provider(s) when required for the intended flight route.
	(continued)				

ATA CHAPTER: 34 Navigation				PAGE: 34-x
(1) System & sequence numbers item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)				Note 1: An SSR transponder with an operative mode S function is defined as a transponder which can provide, at least, elementary surveillance capability. Note 2: Elementary surveillance (ELS) capability (mode S including aeroplane identification and pressure altitude reporting) is required in European mode S designated airspace. Note 3: Altitude reporting, provided by an SSR transponder mode S function, is required for ACAS II operation. Refer to item 34-40-1 for flight with ACAS II inoperative. Note 4: Altitude reporting, provided by an SSR transponder mode S function, is required for flight into RVSM airspace.
(continued)				

(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued)					
34-54-2-1	**Enhanced surveillance functions**				
34-54-2-1A	(ALL)	D	–	0	One or more downlinked aircraft parameters (DAPs) which provide enhanced surveillance may be inoperative when not required for the intended flight route.
34-54-2-1B	(ALL)	C	–	0	One or more downlinked aircraft parameters (DAPs) which provide enhanced surveillance may be inoperative when required for the intended flight route. Note: Enhanced surveillance capability is required in mode S enhanced notified airspace.
34-54-2-2	**Extended squitter (ADS-B out) transmissions**				
34-54-2-2A	(ALL)	D	–	0	One or more extended squitter transmissions may be inoperative when not required for the intended flight route.
(continued)					

ATA CHAPTER: 34 Navigation				PAGE: 34-x
(1) System & sequence numbers item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
(continued) 34-54-2-2B (ALL)	C	–	0	One or more extended squitter transmissions may be inoperative when required for the intended flight route.

Additional considerations:

- **34-10-5 OAT indicator:** This item applies to reciprocating engine-powered aeroplanes of more than 2 722 kg (6 000 lbs) maximum weight and turbine engine-powered aeroplanes.
- **34-20-2A Primary attitude indication:** For electronic cockpits the standby horizon must be operative.
- **34-51-1 Navigation systems:** The listed items are applicable to simple avionics architecture. In case of more complex or more integrated architecture, the dispatch conditions need to be adapted accordingly.

ATA CHAPTER: 35 Oxygen					PAGE: 35-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
35-00-1	**Supplemental oxygen system** **Non-pressurised aeroplanes**				
35-00-1A	(ALL)	D	–	–	Any in excess of those required may be inoperative.
35-10-1	**Flight crew fixed oxygen system** (Supplemental)				
35-10-1-1	Flight deck pressure indications				
35-10-1-1A	(ALL)	C	–	–	(O)(M) One or more may be inoperative provided a procedure is used to ensure the oxygen supply is above the minimum for the intended flight. *(O)/(M) Procedures must be established to provide an alternate means to compute the available oxygen quantity, e.g. using the pressure gauge located on the bottle.*
	(continued)				

ATA CHAPTER: 35 Oxygen						PAGE: 35-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
	(continued)					
35-10-1-2	Bottle gauges					
35-10-1-2A	(ALL)	C	–	0	One or more may be inoperative provided the associated flight deck pressure indication is operative.	
35-10-1-3	Additional oxygen masks (e.g. supernumerary)					
35-10-1-3A	(ALL)	D	–	–	Any in excess of those required may be inoperative.	
35-20-1	**Passenger oxygen system (Supplemental oxygen)**					
35-20-1A	(ALL)	C	–	0	(O)(M) May be inoperative provided: (a) maximum altitude is limited to 10 000 ft pressure altitude, (b) an adequate supply of fresh air is provided to the cabin, and (c) passengers are appropriately briefed. *(O)/(M) Procedures must be established to set the aeroplane in a configuration providing an adequate supply of fresh air to the cabin.* *(O) Procedures must be established to provide a passenger briefing in accordance with the dispatch configuration.*	
35-20-1B	(ALL)	D	–	0	May be inoperative provided no cabin occupant is carried.	

Additional considerations:

— **35-20-1 Passenger oxygen system:** Fresh air is non-recirculated air.

ATA CHAPTER: 38 Water/Waste						PAGE: 38-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch		(5) Remarks or exceptions
38-30-1	**Lavatory waste system**					
38-30-1A	(ALL)	D	1	0		(M) May be inoperative provided: (a) waste is drained and system is inspected for leakage, (b) system components are deactivated, and (c) lavatory access, if applicable, is closed and placarded 'INOPERATIVE — DO NOT USE' or affected lavatory system is placarded 'INOP – DO NOT USE'. *(M) Procedures must be established to drain, inspect and deactivate the system.*
38-30-2	**Pilot relief tube**					
38-30-2A	(ALL)	D	-	0		May be missing or inoperative provided it is not used.

ATA CHAPTER: 46 Information systems						PAGE: 46-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed		(4) Number required for dispatch	(5) Remarks or exceptions
46-20-1	**Electronic flight bag (EFB) systems**					
46-20-1A	(ALL)	C	–		0	(M)(O) May be inoperative provided alternate procedures are established and used where operating procedures require the use of the affected EFB.
46-20-2	**Class 2 EFB**					
46-20-2-1	Mounting device					
46-20-2-1A	(ALL)	C	–		1	(M)(O) Any in excess of one may be inoperative provided the affected EFB is secured by an alternative means.
46-20-2-1B	(ALL)	C	–		0	(M)(O) May be inoperative provided: (a) the associated EFB is used in accordance with class 1 EFB storage criteria, and (b) alternate procedures are established and used where operating procedures require the use of the affected EFB.
46-20-2-2	Data connectivity					
46-20-2-2A	(ALL)	C	–		1	(M)(O) Any in excess of one may be inoperative provided an alternate means of data connectivity is used.
46-20-2-2B	(ALL)	C	–		0	(M)(O) May be inoperative provided alternate procedures are established and used where operating procedures are dependent upon the use of the affected EFB.
(continued)						

ATA CHAPTER: 46 Information systems						PAGE: 46-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
	(continued)					
46-20-3	**Power connection for class 1 and class 2 EFB**					
46-20-3A	(ALL)	C	–	1	(M)(O) Any in excess of one may be inoperative provided an alternative power source is available and can be used for the planned duration of use of the affected EFB.	
46-20-3B	(ALL)	C	–	0	(M)(O) May be inoperative provided alternate procedures are established and used. *For all entries in ATA 46:* *(M) Procedures must be established to give guidance reference for deactivation of affected item, as appropriate, and provide alternate means, as applicable.* *(O) Procedures must be established to provide instructions to the crew for alternate procedures to be used.*	

Additional considerations:

— The purpose of entry 46-20-1 is not to require inclusion of class 1 & 2 EFBs in an operator's MEL, but it is a means of controlling inoperative EFB equipment. Other means may also be agreed with the National Aviation Authority (NAA).

Any EFB function which operates normally may be used.

ATA CHAPTER: 52 Doors						PAGE: 52-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions	
52-10-1	**Door key locks**					
52-10-1	(ALL)	D	–	–	(M) May be inoperative provided the lock is secured in the UNLOCKED position. *(M) Procedures must be established to secure the lock in the unlocked position.*	
52-70-1	**Cabin door warning light**					
52-70-1A	(ALL)	C	1	0	(O) May be inoperative provided: (a) a flight crew member confirms by visual inspection that all doors are properly closed and locked prior to each departure, (b) the doors are not reopened again prior to departure, (c) 'Fasten Seat Belt' sign remains ON, and (d) the passengers are briefed prior to each departure to have their seat belts fastened during the entire flight. *(O) Procedures must be established to brief the passengers prior to each departure.*	

ATA CHAPTER: 61 Propellers					PAGE: 61-x
(1) System & sequence numbers item		(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or exceptions
61-20-1	**Propeller synchrophasing system**				
61-20-1A	(ALL)	C	1	0	May be inoperative.