LAPORAN HASIL ON THE JOB TRAINING
PESAWAT BOEING 737-900 ER
PT. BATAM AERO TECHNIC

Tanggal 10 April – 30 Juni 2024

Oleh:

FIRJA ZAHRAN RASENDRIYA

NIT: 30421009

PROGRAM STUDI DIPLOMA 3 TEKNIK PESAWAT UDARA

POLITEKNIK PENERBANGAN SURABAYA

2024

LEMBAR PERSETUJUAN

LAPORAN HASIL ON THE JOB TRAINING (OJT)
PESAWAT BOEING 737-900 ER

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FIRJA ZAHRAN RASENDRIYA
NIT.30421009

Laporan On the Job Trainig telah diterima dan disahkan sebagai salah satu syarat penilaian On the Job Training (OJT).

Disetujui Oleh:

Pembimbing OJT	Dosen Pembimbing
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MANAGER HANGGAR A
PT. BATAM AERO TECHNIC BASE MAINTENANCE

YASIR AMRI
ID. 63041842

LEMBAR PENGESAHAN

Laporan *On The Job Training* (OJT) telah dilaksanakan di depan tim penguji pada Juli 2024 dan dinyatakan memenuhi syarat sebagai salah satu komponen penilaian *On The Job Training* (OJT).

Tim Penguji,

Ketua	Sekretaris	Anggota
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KATA PENGANTAR

Puji syukur saya panjatkan kepada tuhan Yang Maha Esa, atas berkat dan rahmat-Nya, sehingga penulis dapat menyelesaikan laporan On the Job Training (OJT) yang dilaksanakan di Batam Aero Technic.

Adapun maksud dari penulisan laporan (OJT) ini adalah untuk bekal dalam mendalami ilmu serta keterampilan yang telah didapatkan selama pelaksanaan On the Job Training (OJT). Selain itu juga sebagai wawasan dan pengetahuan untuk para pembaca, sehingga apa yang telah didapatkan berguna bagi pembimbing dan pembaca.

Ucapan terima kasih penulis sampaikan kepada pihak yang telah membantu selama proses penyusunan laporan On The Job Training (OJT), di antaranya :

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2. Bapak Ir Bambang Junipitoyo. S.T, M.T., selaku Ketua Program Studi Diploma 3 Teknik Pesawat Udara di Politeknik Penerbangan Surabaya.
3. Bapak Yasir Amri selaku Manager Hanggar A di PT. Batam Aero Technic atas kesempatan praktik kerja lapangan yang diberikan.
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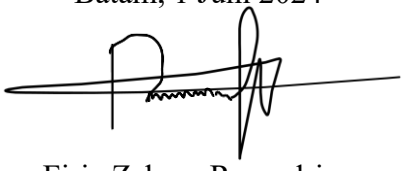
5. Bapak Irpan Maswanto selaku Group Leader sewaktu On the Job Training (OJT).
6. Seluruh Engineer dan Mechanic PT. Batam Aero Technic yang sudah banyak membantu dalam pelaksanaan On the Job Training (OJT).
7. Seluruh dosen dan civitas akademika Prodi D3 Teknik Pesawat Udara Poltekbang Surabaya.
8. Kepada kedua orang tua saya, serta saudara saya, yang telah memberikan doa, kasih sayang, dukungan moril dan material serta dorongan semangat kepada saya.

Demikian serta terima kasih, apabila terdapat salah kata dan penulisan bahasa maupun nama, mohon maaf. Semoga laporan ini dapat berguna bagi seluruh yang membaca laporan ini.

Batam, 1 Juni 2024



Firja Zahran Rasendriya
NIT: 30421009

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BAB 1
PENDAHULUAN

1.1 Latar Belakang

Sebagai organisai yang bergerak di dalam bidang pendidikan khususnya jurusan Teknik Pesawat Udara di Politeknik Penerbangan Surabaya untuk memiliki pengetahuan dasar dalam memahami teori dalam mata kuliah juga diperlukan praktik yang dapat diperoleh melalui kegiatan On the Job Training (OJT) atau praktik kerja lapangan yang merupakan salah satu progam kurikulum pendidikan di Politeknik Penerbangan Surabaya, agar para taruna mampu mengaplikasikan kemampuannya di dunia kerja nanti, sehingga teori yang diperoleh selama menempuh pendidikan dikampus dengan praktek sebenarnya yang ada dilapangan dapat terwujud. Kegiatan OJT ini dapat mendorong taruna untuk menjadi individu yang kompeten dari berbagai pengalaman baik pekerjaan maupun bermasyarakat.

Pelaksanaan kegiatan On the Job Training merupakan kewajiban bagi peserta OJT Program Studi Teknik Pesawat Udara, sebagaimana tercantum dalam Peraturan Kepala Badan Pengembangan SDM Perhubungan Nomor PK.09/BPSDMP-2016 tentang Kurikulum Program Pendidikan Dan Pelatihan Pembentukan di Bidang Penerbangan. Secara, tujuan diadakannya OJT untuk persyaratan menyelesaikan studi Program Diploma 3 Teknik Pesawat Udara dalam pemenuhan jam praktik lapangan dilakukan di Base Maintenance Hangar A Batam Aero Technic. Kawasan Bandar Udara Hang Nadim, Batu Besar Nongsa Batam Kepulauan Riau. Setelah pelaksanaan OJT, sebagai bentuk pertanggung jawaban dan bukti keikut sertaan dalam kegiatan tersebut telah dilaksanakannya OJT maka, perlu disusun Laporan OJT sesuai dengan pedoman penulisan berkaitan dengan programkeahlian masing-masing. Laporan OJT disusun murni berdasarkan pengalaman kerja selama masa OJT.

1.2 Maksud dan Tujuan

Adapun maksud dari pelaksanaan OJT di Batam Aero Technic adalah sebagai berikut :

1. Mempelajari langsung aktifitas di lapangan pekerjaan sesuai dengan disiplin ilmu yang didapat selama pembelajaran.
2. Menyesuaikan (menyiapkan) diri dalam menghadapi lingkungan kerja setelah menyelesaikan studinya.
3. Mengetahui atau melihat secara langsung penggunaan atau peranan teknologi terapan di tempat OJT

Tujuan OJT (On the Job Training) pada pendidikan Diploma 3 Teknik Pesawat Udara sebagai berikut :

1. Terwujudnya lulusan yang mempunyai sertifikat kompetensi sesuai standar nasional dan internasional.
2. Terciptanya lulusan transportasi udara yang memiliki daya saing tinggi di lingkup nasional dan internasional.
3. Memahami budaya kerja dalam industri penyelenggaraan pemberian jasa dan membangun pengalaman nyata memasuki dunia industri penerbangan.
4. Membentuk kemampuan taruna/i dalam berkomunikasi pada materi/subtansi keilmuan secara lisan dan tulisan (laporan OJT dan tugas akhir).

1.3 Waktu dan Tempat Pelaksanaan

OJT (On The Job Training) ini dilaksanakan pada:

Waktu Pelaksanaan : 1 April – 30 Juni 2024

Tempat Pelaksanaan : PT. Batam Aero Technic Maintanance Hangar A

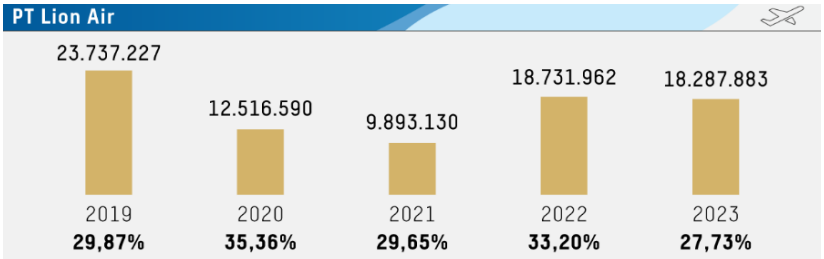
BAB 2
PROFIL LOKASI OJT

2.1 Sejarah Perusahaan

PT. Batam Aero Technic adalah salah satu Badan Usaha Milik Swasta yang bergerak di bidang penerbangan, termasuk perawatan pesawat terbang. Di bisnis maskapai penerbangan nasional. Rusdi Kirana dan kakaknya Kusnan Kirana, lion Air merupakan maskapai penerbangan swasta nasional asal Indonesia yang secara hukum didirikan pada tanggal 15 November 1999 dan mulai beroperasi pertama kali pada tanggal 30 Juni 2000, batam aero technic mulai dibangun pada tahun 2012, BAT telah beroperasi sejak tahun 2014. Hingga Desember 2023, Lion Group telah menginvestasikan total Rp 700 miliar untuk BAT.

Berkantor pusat di Lion Air Tower, Jl. Gajah Mada No. 7 yang berada di kawasan Jakarta Pusat, PT. Lion Mentari Airlines atau yang biasa dikenal dengan Lion Air merupakan maskapai penerbangan berbiaya rendah (Low Cost 4 Carrier) dengan mengusung slogan "We Make People Fly". Melalui hal ini Lion Air mencoba mewujudkan dan merubah stigma masyarakat bahwa siapapun bisa terbang bersama Lion Air dengan tetap mengedepankan aspek keselamatan, keamanan, dan kualitas penerbangan.

Dua puluh empat tahun mengudara dan melayani masyarakat, hingga saat ini Lion Air telah terbang ke 183 rute penerbangan yang terbagi dalam rute domestik yang tersebar ke seluruh penjuru Indonesia dari sabang sampai merauke, dan rute Internasional menuju sejumlah negara seperti, Singapore, Malaysia, Saudi Arabia dan China. Jumlah rute tentunya akan terus bertambah karena melihat pasar penerbangan di Indonesia yang terus berkembang begitu pesat.



Gambar 2. 1 Penumpang angkutan udara tahun 2019-2023

2.2 Armada Lion

Total 366 pesawat yang dimiliki oleh PT. Lion Air Group hingga tahun 2024.

Tabel 2. 1 Jumlah Pesawat yang Dimiliki oleh PT Lion Air Group
(Sumber: Data Divisi *Corporate Communications)*

Jenis Pesawat	Jumlah
Airbus A320-200	104
Airbus A320neo	1
Airbus A330-300	9
Airbus A330-900	8
ATR 72-500	20
ATR 72-600	58
Boeing 737-800	80
Boeing 737-900ER	67
Boeing 737 MAX 8	16
Boeing 737 MAX 9	3

Hingga saat ini, Lion Air berfokus untuk melayani penerbangan menuju lebih dari 43 kota tujuan domestik dan 44 rute internasional yang meliputi Singapore, Malaysia, Tiongkok, dan Saudi Arabia. Untuk maskapai Wings Air berfokus dalam melayani penerbangan menuju 124 kota dalam negeri dan satu regional di Kuching, Malaysia. Sedangkan maskapai premium, Batik Air melayani 43 kota di Indonesia dan 17 destinasi di berbagai daerah seperti Singapore, Malaysia, Tiongkok, India, Australia, China, dan Saudi Arabia.

2.3 Profil PT. Batam Aero Technic

Gambar 2. 2 Logo Perusahaan
(sumber http://www.lionair.co.id/tentang-kami)

BATAM *AERO TECHNIC* adalah salah satu Badan Usaha Milik Swasta (BUMS) yang bergerak pada bidang jasa transportasi udara. Maskapai penerbangan Lion Air meresmikan hanggar pertama bagi anak perusahaannya, BATAM *AERO TECHNIC* di Batam. Anak perusahaan Lion Air ini bergerak dalam bidang Schedule dan *Unschedule Maintenance* dan *Repair*.

Kode organisasi	: 145D-914
Nama perusahaan	: BATAM AERO TECHNIC
Doing business	: BATAM AERO TECHNIC
Alamat perusahaan	: KAWASAN BANDAR UDARA HANG NADIM, BATU BESAR NONGSA BATAM KEPULAUAN RIAU.
Nomor telepon	: +627788073188
Fax	: +627788073188
Alamat email	: -
Status operasi	: VALID

2.4 Fasilitas PT. Batam *Aero Technic*

PT. Batam *Aero Technic* memiliki fasilitas *base maintenance* yang didirikan diatas lahan seluas 120.000 m^2. Dibawah ini merupakan penjabaran dan penggambaran fasilitas yang ada di PT. Batam *Aero Technic* dapat dilihat pada gambar 2.3 dan 2.4:

Gambar 2. 3 denah hangar PT. Batam Aero Technic
(sumber: Google maps)

Dari dua gambar diatas merupakan penggambaran fasilitas yang dimiliki oleh PT. Batam *Aero Technic* yang ditandai dengan angka, berikut ini adalah penjabaran fasilitas yang ada di PT. Batam *Aero Technic*:

1. *Hangar* A1 dan A2: Fasilitas yang ada pada *hangar* ini meliputi toilet, *rest room, cleaning room, sheet repair manual, U/S store, chemical storage, tool drawer, mobile office, manager room, quality room, manager room, meeting room, store, class room*. Pada *hangar* A dapat menampung 3 pesawat boeing 737 dan 2 pesawat A330
2. *Hangar* B1 dan B2: Fasilitas yang ada di *hangar* ini meliputi toilet, *tool store, rest room, cleaning room, mobile office, HRD room, manager room,engine*

storage, avionic shop, NDT shop, PIC room. Pada *hangar* ini memiliki fasilitas daya tampung pesawat yang sama dengan hangar A.

3. *Hangar* C: Pada Hangar C digunakan untuk menyimpan pesawar terbang berukuran kecil, seperti Cessna.
4. *Hangar* D: Pada *hangar* ini memiliki fasilitas yaitu sebagai area *painting* yang dapat menampung 1 pesawat Boeing 737.
5. Kantin dan masjid: Pada no. 5 terdapat fasilitas masjid yang digunakan untuk tempat ibadah sholat para pegawai PT. Batam *Aero Technic.* Serta fasilitas kantin yang digunakan untuk waktu makan di saat istirahat.
6. *Tool storage*: Pada fasilitas ini digunakan untuk menyimpan *tools* berukuran besar yang digunakan untuk menunjang *maintenance* pesawat. Contohnya *trolley, chocks* untuk tes *run up* pesawat besar, seperti Airbus A330.
7. *Run up area*: Fasilitas ini merupakan area yang digunakan untuk tes *run up engine* pesawat.
8. *Hangar* E: Pada *hangar* ini terdapat beberapa fasilitas, diantaranya *manager room meeting room, mobile office*, musholla, *PIC room*, serta toilet. Pada *hangar* ini dapat memuat maksimal 6 pesawat Airbus A320/Boeing 737.
9. *Hangar* G: *Hangar* ini memiliki beberapa fasilitas diantaranya *manager room, meeting room, mobile office, rest room,* dan toilet. *Hangar* ini hanya dapat menampung 4 pesawat Airbus A320/Boeing 737.
10. *Apron:* Pada wilayah *apron* digunakan untuk memarkirkan pesawat dengan tujuan untuk maintenance maupun prolong. Pada *apron* dapat memuat belasan pesawat, baik dari jenis ATR, Boeing 737, Airbus A320, Maupun Airbus A330.
11. *Shop*: Pada fasilitas *shop* digunakan untuk menyimpan komponen-komponen yang dikirim untuk pesawat-pesawat di PT. Batam *Aero Technic*
12. Pintu masuk: Pada bagian pintu masuk terdapat beberapa fasilitas yaitu *SCP* (security point) yang dilengkapi dengan *x-ray* untuk pemeriksaan, fasilitas parkiran kendaraan, dan fasilitas antar jemput pegawai dari pintu masuk hingga ke *hangar* menggunakan bus.

2.5 Visi Dan Misi

Sebagai suatu perusahaan yang besar dibidang Maintenance pesawat udara, Batam Aero Technic memiliki visi dan misi agar semua tujuan dan perencanaannya dapat tercapai. Beriku adalah visi dan misi tersebut sebagai berikut:

Visi : "To be A "World Class MRO" providing service with Highest standard of Quality and Safety. (Menjadi "MRO Kelas Dunia" yang menyediakan layanan dengan standar Kualitas dan Keamanan Tertinggi)

Misi : Maintaining airworthiness of our products, with excellent quality and placing Safety as first Priority, We are committed to provide the Best Service to our Customer. (Menjaga kelaiakudaraan produk kami, dengan kualitas yang sangat baik dan menempatkan Keselamatan sebagai Prioritas utama, Kami berkomitmen untuk memberikan Layanan Terbaik kepada Pelanggan kami)

2.6 Budaya Perusahaan

Kegiatan On the Job Training yang dilaksanakan PT. Batam Aero Technic mengikuti jam kerja yang telah di atur perusahaan yaitu shift pagi dan shift siang. Shift pagi bekerja mulai pukul 08.00 WIB sampai 17.00 WIB. Shift siang bekerja mulai pukul 16.00 WIB sampai 01.00 WIB. Tapi kelompok shift pagi tidak seterusnya bekerja pada shift pagi dan shift siang tidak seterusnya bekerja pada shift siang, karena tiap satu minggu yang shift pagi bergantian dengan shift siang. Untuk sistem kerja shift di perusahaan yaitu 6 hari kerja dan 3 hari libur. Pada perusahaan ini hubungan antar karyawan selalu harmonis dan menciptakan iklim kerja yang komunikatif, kontributif, kooperatif, dan koordinatif. Hubungan tersebut dapat terwujud karena berawal dari sikap yang saling menghormati pada profesi masing-masing tanpa memandang tinggi rendahnya status pekerjaan tersebut.

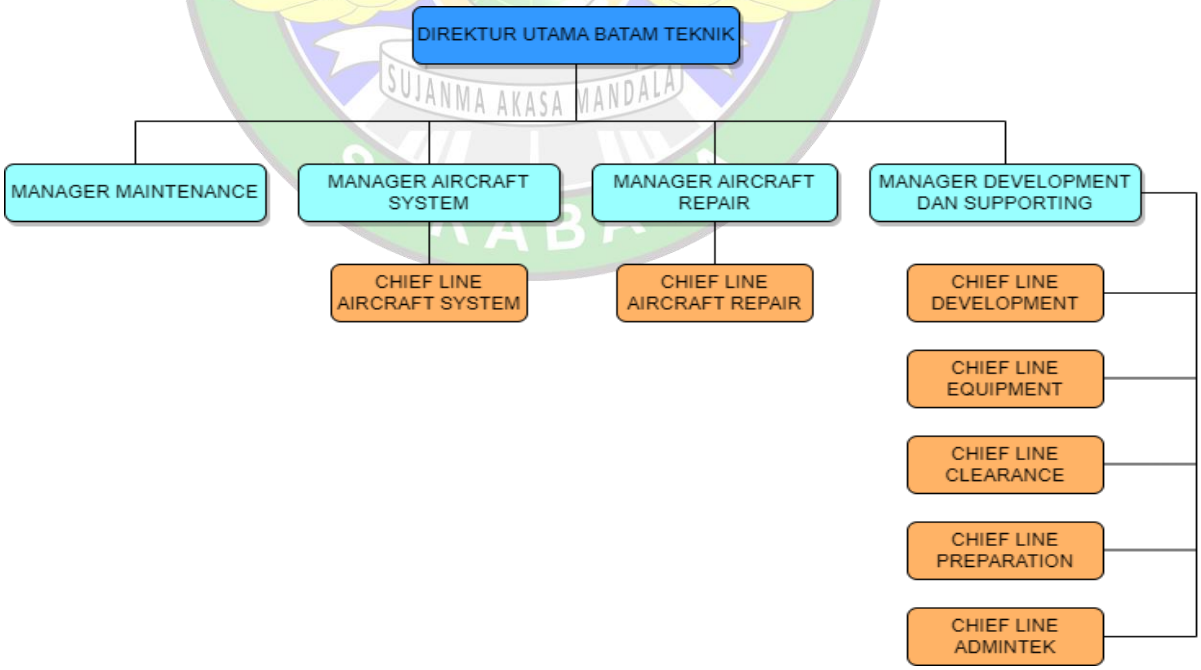
Karayawan wajib Mentaati tata tertib setiap masuk kerja, yaitu sebagai berikut:

1. Mengisi absensi (sidik jari/ kartu hadir) pada waktu masuk dan pulang bekerja.
2. Memakai tanda pengenal (ID Card) yang dipasang dibagian dada sebelah kiri atau digantung dan terlihat jelas.
3. Memakai pakaian seragam dinas sesuai ketentuan yang berlaku.

4. Mentaati waktu masuk kerja, waktu istirahat dan waktu pulang bekerja sesuai yang diberlakukan.
5. Memberitahu atau meminta ijin kepada Atasan bila akan meninggalkan tempat bekerja selama jam kerja masih berlaku.
6. Mentaati prosedur tata tertib yang berlaku di lingkungan perusahaan.
7. Wajib menggunakan peralatan safety selama bekerja.
8. Tidak melanggar tata tertib yang berlaku di perusahaan.

2.7 Struktur Organisasi PT. Batam Aero Technic

Sesuai CASR 145 Bagan struktur ini termasuk Organisasi Pemeliharaan yang Disetujui (AMO) sertifikat. Bagian ini juga berisi divisi yang harus diikuti oleh AMO bersertifikat terkait dengan kinerja pemeliharaan, pemeliharaan preventif, atau perubahan pesawat badan pesawat, mesin pesawat, baling-baling, peralatan, atau bagian komponen yang berlaku. Ini juga berlaku untuk setiap orang yang memegang, atau diharuskan memiliki, AMO sertifikat yang diterbitkan di bawah bagian ini. Untuk keperluan bagian ini, berikut definisi yang berlaku:



Gambar 2. 4 Struktur Organisasi PT. Batam Aero Technic

Pemimpin dan beberapa jajarannya memiliki tanggung jawab seperti berikut :

1. Direktur Utama: Adalah jabatan tertinggi dalam organisasi perusahaan batam aero technic, yang memiliki kuasa penuh dalam hal mengambil keputusan, mengontrol semua unit yang berada di bawah kekuasaan direktur, dan bertanggung jawab penuh kepada perusahaan batam aero technic
2. Manager *Maintenance*: Bertanggung jawab kepada Manager Maintenance Batam *Aero Technic*. Ia bertanggung jawab untuk mengoordinasi Base Maintenance Departemen untuk memastikan operasi berfungsi lancar.
3. *Manager Aircraft system*: Memiliki tanggung jawab langsung kepenanggung jawab pemeliharaan basis fasilitas dan personil untuk kebutuhan pelanggan selama jadwal pemeriksaan dan dalam induksi pesawat sampai personil dalam biaya selama penyelesaian proses tugas seluruh capai dalam fasilitas.
4. *Manager aircraft repair*: Bertanggung jawab melaporkan langsung kepada Base Maintenance Manager. Mempunyai tanggung jawab di bawah atau dalam pengawasannya menjaga kebutuhan pelanggan pesawat selama jadwal pemeriksaan sampai terselesainya seluruh proses atau tugas capai dalam fasilitas.
5. *Manager Development* dan *Supporting*: Memiliki tanggung jawab membuat laporan langsung kepada Base Maintenance Manager. Memiliki tanggung jawab dibawah pengawasannya untuk mendukung kebutuhan pelanggan progresionas perawatan pesawat selama jadwal dilakukan pemeriksaan sampai selesainya seluruh tugas capai dalam fasilitas.
6. *Chief Line aircraft repair*: Memiliki tanggung jawab dan melapor langsung kepada Manager Aircraft repair. Memiliki tanggung jawab untuk membuat koordinasi kerja dengan pemimpin grup personil teknisi mekanik untuk tugas tertentu dengan berbagi tugas satu sama lain dalam kelompoknya untuk mempertahankan kegiatan Base Maintenance.
7. *Chief Line Development*: Bertanggung jawab untuk Manager Development dan Supporting. Berhubungan dengan Engineering staff untuk memastikan

dan mengendalikan bahwa pesawat Batam Aero Technic Base Maintenance publikasi teknis disimpan dan di distribusikan ke masingmasing departemen pekerjaan untuk referensi yang digunakan oleh personil saat melakukan perbaikan perawatan dasar pesawat dan tugas atau pekerjaan.

8. *Chief Line Equipment*: Bertanggung jawab untuk Manager Development dan Supporting.Harus memastikan semua pemeliharaan dan pengoperasian Ground Support Equipment (GSE) pesawat Base Maintenance terjaga dalam kondisi baik selama jadwal cek perawatan pesawat.
9. *Chief Line Aircraft Clearance*: Bertanggung jawab untuk Manager Development dan supporting. Untuk memastikan semua seuai dengan pesawat atau pesawat parts keluar dan masuk pengiriman dan custom tugas pemeliharaan. pembersihan harus dilakukan apakah untuk pengiriman barang teknis dan dokumentasi.
10. *Chief Line Inspection Preparation*: Memiliki tanggung jawab dan laporan langsung kepada Manager Development dan Supporting. Memiliki tanggung jawab untuk membuat koordinasi kerja dengan pemimpin grup personil teknisi mekanik untuk tugas tertentu dengan berbagi tugas satu sama lain dengan kelompoknya untuk mempertahankan kegiatan *Base Maintenance*.
11. *Chief Line Admintek*: Bertanggung jawab kepada Manager development dan supporting. Memastikan bahwa personil *Schedule Maintenance* Batam Aero Technic bekerja berdasarkan daftar tugas dan jadwal.
12. *Chief Line aircraft system*: Memiliki tanggung jawab dan juga melapor langsung kepada Manager Aircraft system. Memiliki tanggung jawab untuk membuat koordinasi kerja dengan pemimpin grup personil teknisi mekanik untuk tugas tertentu dengan berbagi tugas satu sama lain dalam kelompoknya untuk mempertahankan kegiatan *Base Maintenance*.

BAB 3
TINJAUAN TEORI

3.1 *Boeing* 737-900ER

Boeing 737 merupakan salah satu jenis pesawat komersial dengan mesin ganda (Twin Jet) yang diproduksi oleh Boeing *Commercial Airplanes* di seattle Amerika Serikat. Diluncurkan pada tahun 1993 sebagai turunan generasi ketiga dari Boeing 737, telah diproduksi sejak 1997 dan merupakan peningkatan dari seri 737 *Classic* (−300/-400/-500).

Boeing 737-900 ER (*Extented Range*), Cockpitnya telah dilengkapi dengan HUD (*Head Up Display*). Peralatan ini biasanya dipakai pada pesawat militer/ pesawat tempur. Fungsinya untuk mempermudah pilot dalam menentukan kemiringan pesawat baik secara vertical maupun horizontal. Pesawat ini menggunakan layar yang terpadu dalam bentuk glass *cockpit* secara menyeluruh. Sistem glass cockpit ini dipercaya akan menjadi trend bagi pesawat-pesawat baru. Berikut adalah pesifikasi Pesawat Boeing 737-900ER:

1. Rentang sayap : 35.79 m
2. Panjang : 42.1 m
3. Kecepatan jelajah : 823 km/j
4. Jangkauan maks. : 6.045 km
5. Penumpang maks. : 220
6. *Average seat pitch europe bussiness class* : 33 inci/ 84 cm
7. Rata-rata Jarak ke kursi depan untuk kelas ekonomi : 30 inci/ 76 cm

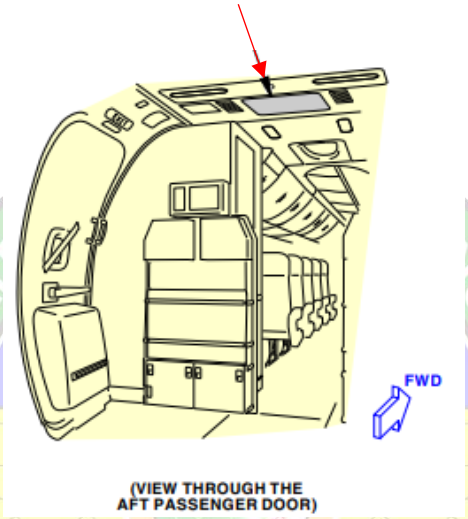
Gambar 3. 1 Boeing 737-900ER (Sumber: 737-900ER_Lion_Air_Spijkers.jpg)

3.2 Power Supply – Battery pack

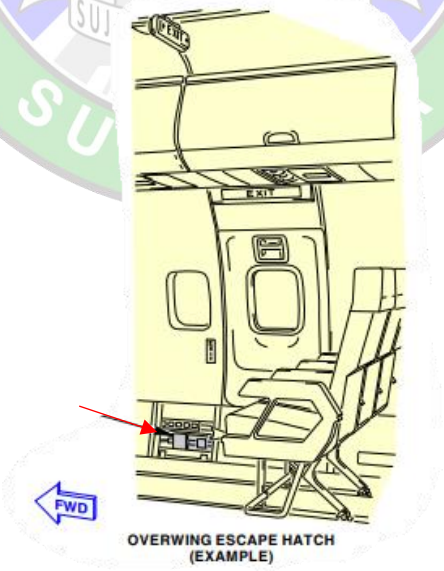
Power supplies berfungsi memberi daya ke internal dan external emergency lights, *Battery pack* dapat diisi ulang sepenuhnya dalam 90 menit.

Power supplies terletak di:

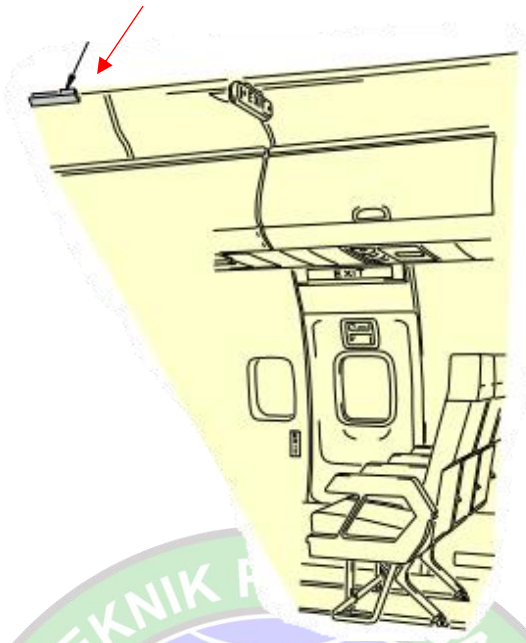
1. Aft *passenger door*
2. *Aisle near the ceiling.*
3. Pada *overwing escape hatch*



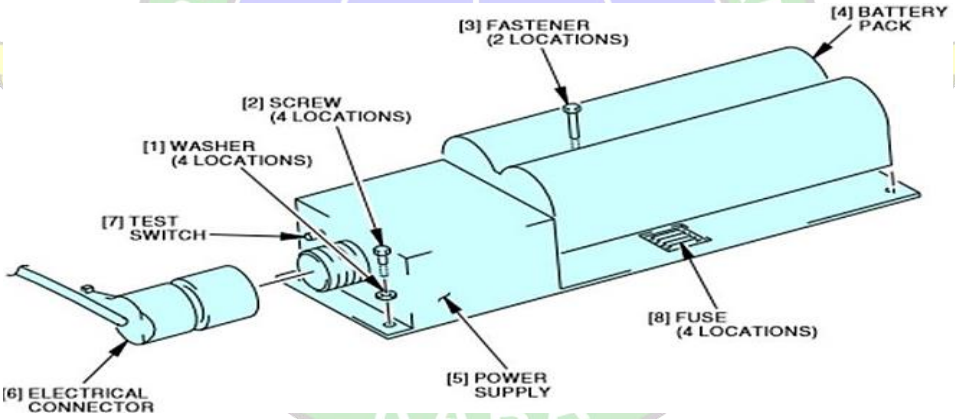
Gambar *3. 2 Lokasi battery pack aft passenger door* (Sumber: AMM 33-51-06)



Gambar 3. 3 Lokasi *battery pack Aisle near the ceiling* (Sumber: AMM 33-51-06)



Gambar 3. 4 Lokasi *battery pack overwing escape hatch* (Sumber: AMM 33-51-06)



Gambar 3. 5 bagian-bagian power supply (Sumber: AMM 33-51-06)

Gambar 3. 6 Battery Pack (Sumber: dokumentasi pribadi)

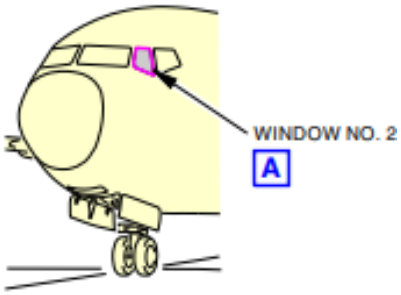
Emergency exit light switch terletak pada P5 *forward overhead* panel atau pada attendant panel. *Switches* control tersebut digunakan untuk mengoperasikan *emergency lights*. *Emergency exit light switch* pada P5 panel memiliki beberapa komponen:

- ON - *emergency lights* menyala
- OFF – mencegah operasi otomatis
- ARM – menyiapkan sistem untuk operasi otomatis

28 V DC bus 1 memberi daya ke indication lights ini. *Emergency exit switch* yang berada di attendant panel memiliki 3 posisi, ON , ARMED dan OFF. Posisi *ON* membuat *emergency lights* menyala, posisi ARMED mengatur operasi otomatis, posisi *OFF* mengatur agar lampu tetap mati walaupun pesawat menyala.

Gambar 3. 7 *Switch P5 Emergency light* (sumber: dokumentasi pribadi)

3.3 Openable Window

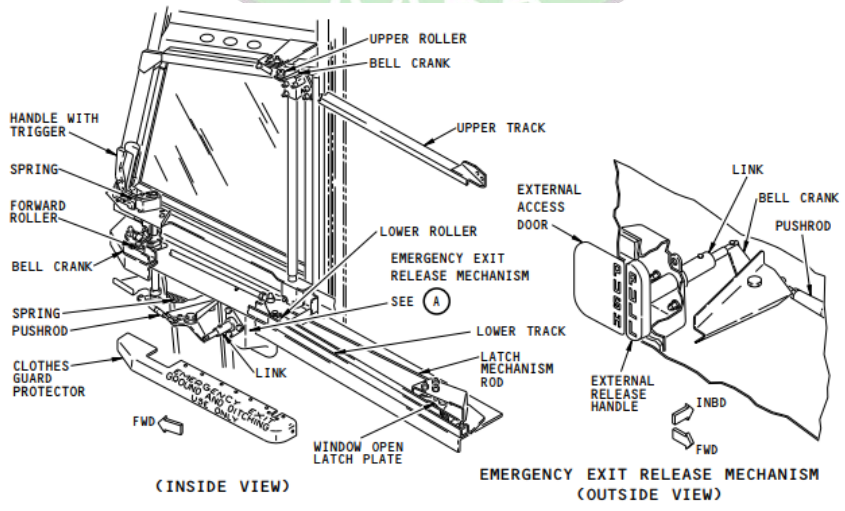


Gambar 3. 8 Lokasi Openable Window (sumber: AMM 56-12-11)

Jendela No. 2 sebelah kiri adalah jendela samping pilot. Jendela No. 2 sebelah kanan adalah jendela samping co-pilot. Jendela kiri dan kanan adalah rakitan dan instalasi yang berlawanan. Jendela No. 2 dapat dibuka sebagai pintu keluar darurat. Anda dapat mengoperasikan jendela kanan dari luar pesawat sebagai pintu keluar darurat.

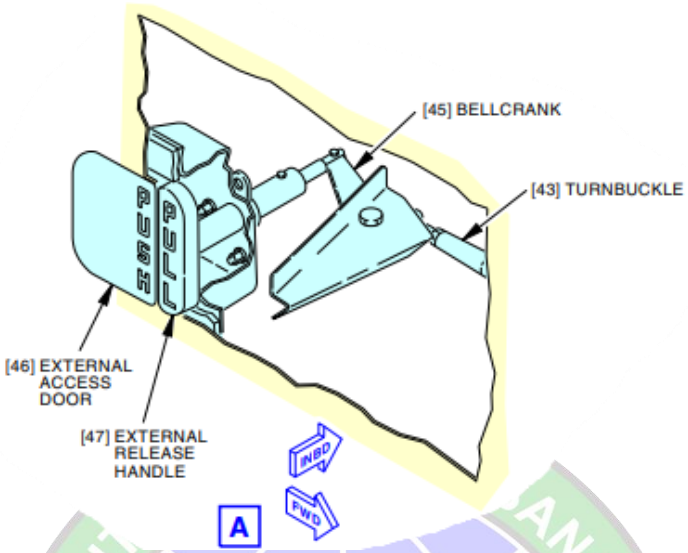
Berikut adalah bagian-bagian No. 2 *Openable Window*:

1. *Handle with trigger*
2. *Bell crank*
3. *Pushrods*
4. *Clothes guard protector*
5. *Link*
6. *Spring pushrod*
7. *Window open latch plate*
8. *Upper roller*
9. *Upper track*
10. *Lower roller*
11. *Lower track*
12. *Latch mechanism rod*
13. *External access door*
14. *External release handle.*



Gambar 3. 9 bagian-bagian No. 2 Openable Window (sumber: SDS 56-12-00)

Emergency Operation:



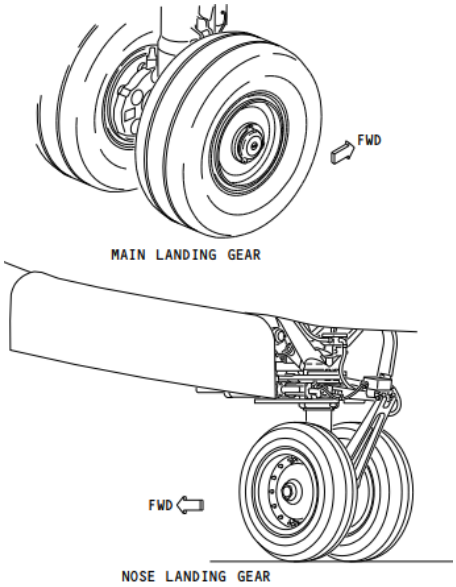
Gambar 3. 10 External access door & release handle (sumber: 56-12-11)

Untuk membuka window, dorong external access door, dan tarik external release handle. Sehingga kunci window akan terbuka dan jendela bergeser ke dalam. Kemudian tarik dan geser jendela ke belakang.

3.4 Landing Gear

Landing gear atau yang dikenal dengan roda pesawat adalah bagian utama penopang pesawat ketika mendarat, lepas landas, parkir, dan taxi (bergerak didarat). Pesawat Boeing 737-900 ER memiliki total 6 roda, yang terdiri dari:

- Dua roda depan (nose landing gear): Terletak di bagian depan pesawat dan digunakan untuk steering saat pesawat bergerak di darat.
- Empat roda utama (main landing gear): Terletak di bawah sayap atau badan pesawat, dengan dua roda di setiap sisi kanan dan kiri. Roda-roda ini menanggung sebagian besar berat pesawat saat lepas landas dan mendarat.



Gambar 3. 11 Tires and wheels (sumber: 32-45-00)

Tekanan udara dalam landing gear pesawat Boeing 737-ER bervariasi tergantung pada model dan beban operasional. Secara umum, tekanan udara yang sesuai untuk roda pesawat Boeing 737-ER biasanya berkisar sebagai berikut:

- *Nose Wheel (*roda depan*):* Sekitar 200-210 psi (PSIG)
- *Main Wheels* (roda utama): Sekitar 200-210 psi (PSIG)

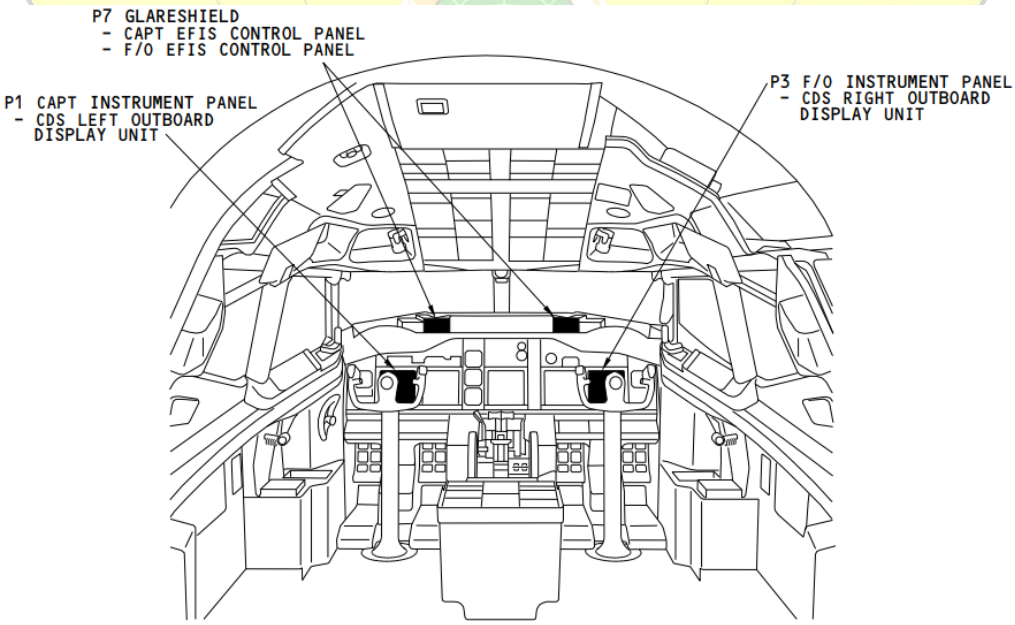
Gambar 3. 12 Nose Wheel Pound per square inch gauge. (sumber: dokumentasi pribadi)

Gambar 3. 13 Main Wheel Pound per square inch gauge.(sumber: dokumentasi pribadi)

3.5 Weather Radar Receiver/Transmitter

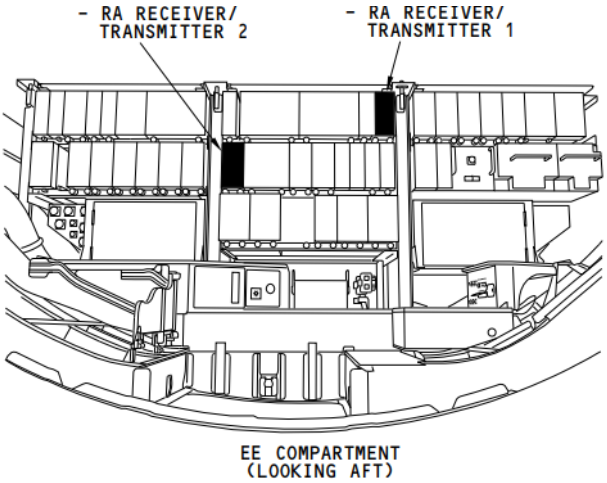
Weather radar receiver/transmitter adalah komponen utama dalam sistem radar yang digunakan untuk mendeteksi dan melacak seperti hujan, badai, dan lokasi pesawat atau di sekitar pesawat. Berikut adalah penjelasan mengenai cara kerjanya dan komponennya:

1. *Transmitter*: Berfungsi yaitu Memancarkan gelombang radio ke atmosfer.
2. *Antenna* : Mengarahkan sinyal yang dipancarkan ke dalam berkas sempit dan menerima sinyal yang dipantulkan kembali.
3. *Receiver*: Menangkap sinyal yang dipantulkan kembali dan Mengonversi sinyal yang diterima menjadi format digital untuk dianalisis.
4. *Signal Processor:* Menganalisis sinyal yang diterima untuk menentukan karakteristik seperti lokasi dan cuaca.
5. *Display System:* Menampilkan data yang telah diolah dalam format visual. Data di tampilkan pada kokpit di captain display dan first officer display.



Gambar 3. 14 Lokasi Display Unit (sumber: SDS 34-33-00)

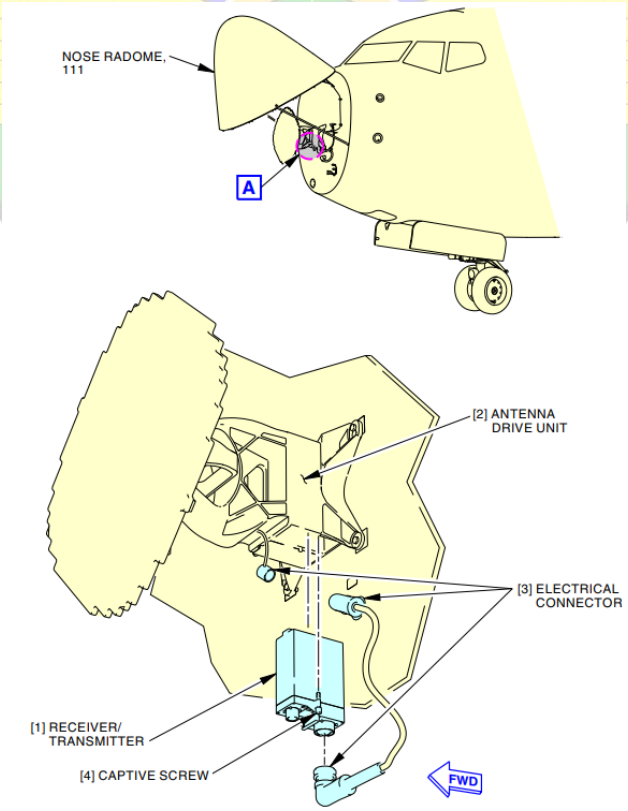
Power yang dibutuhkan untuk RA receiver/transmitter 1 adalah 115v ac from xfer bus 1. Dan RA receiver/transmitter 2 adalah 115v ac from xfer bus 2.



Gambar 3. 15 Display Electronic Units (DEU) (sumber: SDS 34-33-00)

Berikut adalah batas pengoprasian receiver/transmitter:

- *Frequency* = 4200 MHz to 4400 MHz
- *Transmit power* = 1000 mW
- *Operating range* = -20 to 8000 feet



Gambar 3. 16 Lokasi Weather Radar Receiver/Transmitter (sumber: AMM 34-43-41)

3.6 Reheater

1. **Purpose**

Reheater meningkatkan suhu udara sebelum masuk ke turbine of the air cycle machine agar tidak terlalu dingin yang bisa menyebabkan pembekuan atau icing. Peningkatan suhu dapat meningkatkan efficiency dari turbine.

Dengan reheater, sistem AC dapat menyediakan udara dengan suhu yang sesuai untuk berbagai kondisi penerbangan, termasuk perubahan suhu eksternal yang ekstrem di ketinggian yang berbeda.

2. **Location**

Pesawat mempunyai dua reheater, setiap air conditioning pack mempunyai satu reheater, reheater merupakan bagian dari high pressure water separator assemblies.

3. **Physical Description - Reheaters**

Bagian-bagian dari reheater:

- Inlet (udara panas dari secondary heat exchanger)
- Outlet (mendinginkan) menuju ke condenser
- Reheater core case
- Inlets (udara dingin dari water extractors)
- Outlet (menghangatkan) menuju ke cycle machine turbine
- Pack sensor bosses.

4. **Functional Description**

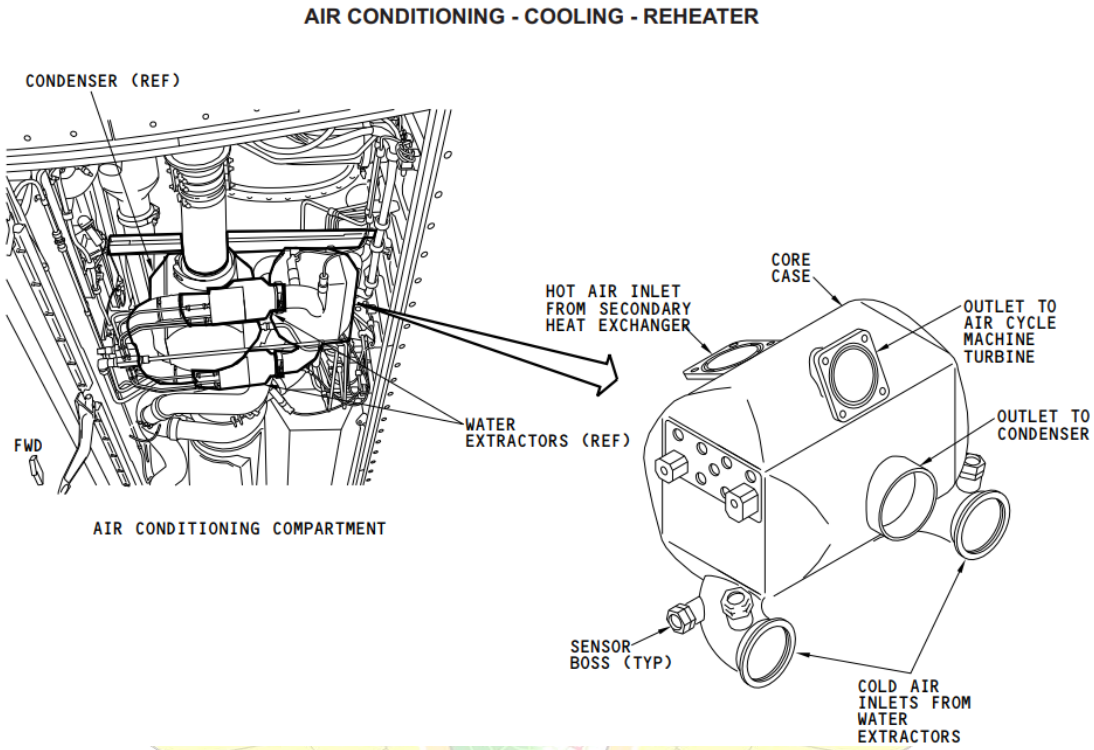
Reheater adalah plate-fin, single-pass, crossflow, air-to-air heat exchanger. Reheater terbuat dari aluminum. Reheater regenerative-type heat exchanger. Memiliki fungsi sebagai berikut:

- Mendinginkan udara dari secondary heat exchanger sebelum memasuki condenser.
- Memanaskan kembali udara saat dikeluarkan dari water extractors.

5. **Information Point**

Reheater merupakan bagian dari high pressure water separator assembly. Untuk melepaskan reheater, pertama lepaskan terlebih dahulu water separator assembly.

Anda harus melepas left air conditioning pack high pressure water separator untuk mendapatkan access ke center fuel tank access panel.



Gambar 3. 17 Air conditioning- cooling reheater (sumber: SDS 21-50-00)

BAB 4
PELAKSANAAN OJT

4.1 Lingkup Pelaksanaan OJT

OJT ini dilaksanakan selama 3 bulan, terhitung mulai dari tanggal 01 April 2024 sampai dengan 30 Juni 2024. Karena keterbatasan waktu yang dimiliki, maka pada OJT ini hanya dilaksanakan pada divisi yang tetap tidak berpindah pindah unit. Dalam hal ini penulis mendapatkan unit Base Maintenance yang ada di hangar A line 4 group C Batam *Aero Technic*.

4.2 Jadwal Pelaksanaan OJT

Pelaksanaan On the Job Training (OJT) ini dilaksanakan dengan data sebagai berikut:

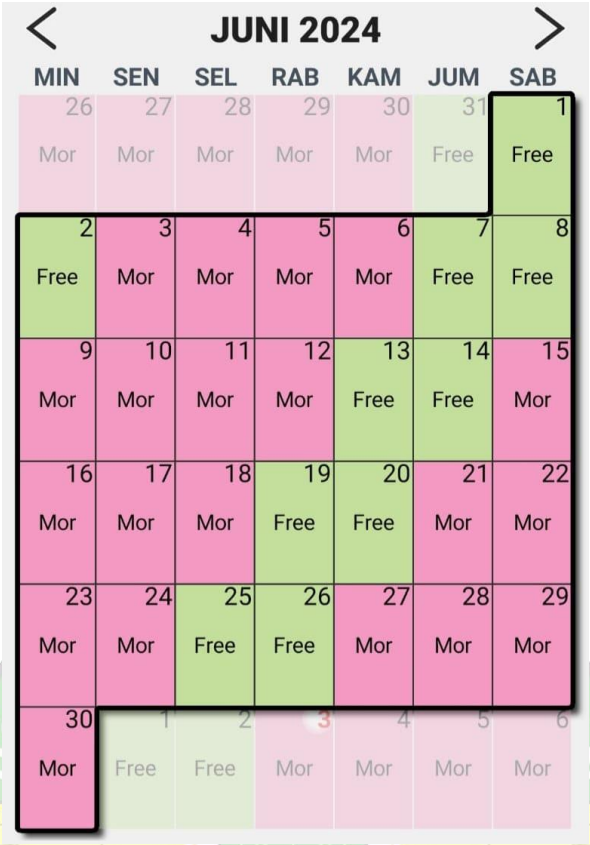
1. Peserta : Taruna Diploma III Teknik Pesawat Udara Angkatan VII A Politeknik Penerbangan Surabaya.
2. Jumlah : 18 Taruna
3. Shift : Pagi (08.00-17.00) dan Siang (16.00-01.00)
4. Jadwal : 6 hari kerja, 3 hari libur.

Tiap-tiap taruna masuk ke line production yang berbeda-beda mulai dari line 1 sampai line 18. Pada saat melaksanakan on the job training saya di tempatkan di line 4 group C, tentunya jadwal kerja berbeda dengan taruna ojt yang lain. Tetapi saat di bulan Juni terjadi perubahan jadwal kerja menjadi shift pagi pada setiap jadwal nya dan menjadi 4 hari kerja 2 hari libur.

Berikut adalah jadwal kerja line 4 group C di hangar Batam *aero technic*:

Gambar 4. 1 Jadwal kerja bulan April 2024

Gambar 4. 2 Jadwal kerja bulan Mei 2024



Gambar 4. 3 Jadwal kerja bulan Juni 2024

4.3 Permasalahan

Pada saat melaksanakan on the job training, kami dihadapkan beberapa permasalahan pada pesawat Boeing 737-900 ER antara lain:

1. Emergency Light Overwing Escape Hatch not iluminate.
2. Openable Window- Adjusment/Test.
3. Replacement Tire.
4. Replacement Weather Radar Receiver/Transmitter.
5. Replacement Reheater.

4.4 Penyeselasian Masalah

4.4.1 Power Supply - Battery Pack Replacement

A. Identification

Pada tanggal 5 April 2024 dilakukan kegiatan berupa general visual inspection pada emergency light yang ada di kabin pesawat. Kegiatan ini merupakan bagian dari C- check pada pesawat Thai lion Boeing 737-800 dengan kode regristrasi HS-LUZ. Pada saat dilakukan inspeksi ditemukan permasalahan pada *emergency light escape hatch left overwing* yaitu tidak dapat menyala.

Gambar 4. 4 *Emergency Light Escape Hatch* (sumber: dokumentasi pribadi)

B. Inspection

Berdasarkan FIM 33-50 Task 801 yang ditunjukkan pada lampiran 14 terdapat dua possible cause yang menyebabkan lampu tidak dapat menyala diantaranya circuit breaker, wiring dan battery pack (Reff: FIM FIM 33-50 Task 801). Dalam pelaksanaannya engineer menemukan emergency exit light not illuminate pada escape hatch.

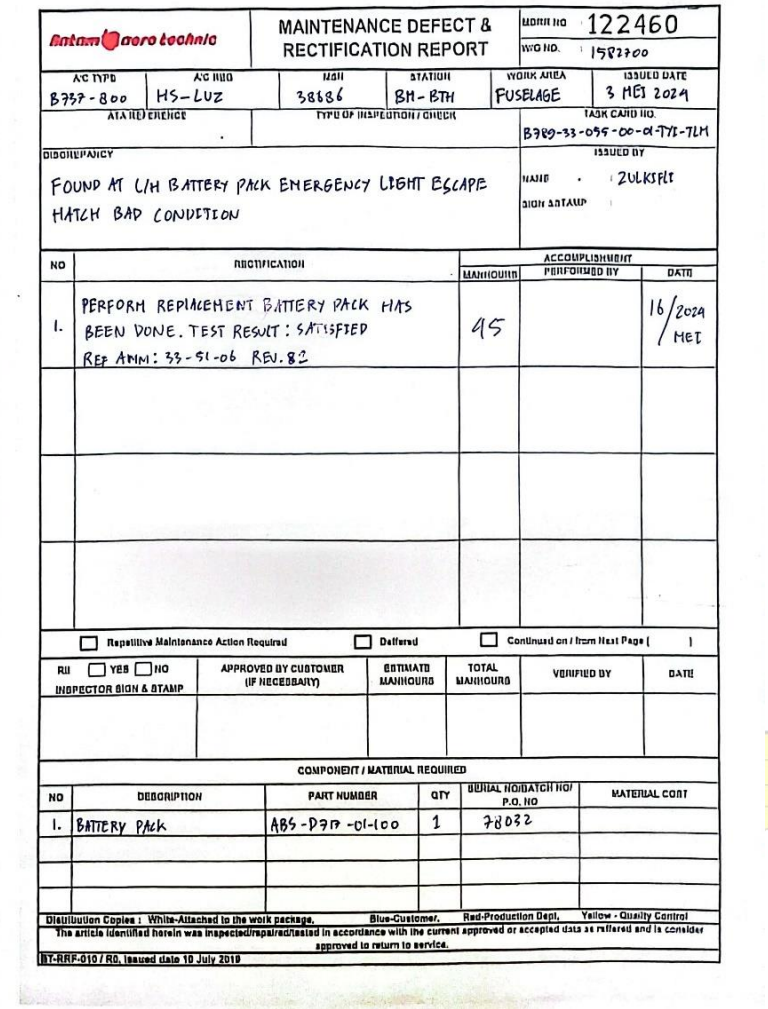
Berdasarkan FIM, engineer diharuskan melakukan pengecekan pada circuit breaker pada P18-3 panel terlebih daluhu lalu atur switch pada ON mode, kemudian melakukan lamp test, secara visual dapat dilihat bahwa lampu pada emergency exit light escape hatch tidak dapat menyala. Dilanjutkan dengan melakukan charge

battery pack sesuai prosedur. Kemudian engineer melakukan pengecekan sesuai prosedur. Engineer melakukan wiring check namun tidak ditemukan masalah.

Kemudian engineer melakukan troubleshooting dengan menukar (crosschange) pada *battery pack emergency light escape hatch* kanan dengan kiri, dan di dapatkan lampu yang mengunakan battery pack sebelah kanan bisa menyala dan lampu yang menggunakan battery pack sebelah kiri tidak menyala. Disimpulkan bahwa permasalahan terletak pada battery pack tersebut. Gambar 4.5 merupakah unserviceable (U/S) tag pada window lights yang dibuat sebagai tanda bahwa lampu tersebut sudah tidak dapat berfungsi dengan normal

Langkah selanjutnya, dibuat dokumen MDRR (Maintenance Defect dan Rectification Report) oleh engineer. Gambar 4.6 menunjukkan dokumen MDRR No. 122460 yang dibuat pada tanggal 3 Mei 2024 sebagai bentuk report permasalahan yang ada pada battery pack emergency light. Dokumen N/R-00160 kemudian diterbitkan oleh PPC untuk menidaklanjuti pelaksanaan replacement. Pelaksanaan replacement pada battery pack dilakukan berdasarkan referensi dari AMM Task 33-51-06-960-805 Rev 83 ditunjukkan pada lampiran 4.

Gambar 4. 5 *Unserviceable Tag Battery Pack* (sumber: dokumentasi pribadi)



Antam Aero Technic

MAINTENANCE DEFECT & RECTIFICATION REPORT

MDRR NO 122460
WO NO. 1582700

A/C TYPE	A/C REG	MSN	STATION	WORK AREA	ISSUED DATE
B737-800	HS-LUZ	38686	BH-BTH	FUSELAGE	3 MEI 2024

ATA REFERENCE | TYPE OF INSPECTION / CHECK | TASK CARD NO. B789-33-055-00-01-TYI-TLM

DISCREPANCY
FOUND AT L/H BATTERY PACK EMERGENCY LIGHT ESCAPE HATCH BAD CONDITION

ISSUED BY
NAME : ZULKIFLI
SIGN & STAMP :

NO	RECTIFICATION	ACCOMPLISHMENT MANHOURS	PERFORMED BY	DATE
1.	PERFORM REPLACEMENT BATTERY PACK HAS BEEN DONE. TEST RESULT : SATISFIED REF AMM : 33-51-06 REV. 82	45		16/2024 MEI

☐ Repetitive Maintenance Action Required ☐ Deferred ☐ Continued on / from Next Page ( )

RII ☐ YES ☐ NO INSPECTOR SIGN & STAMP	APPROVED BY CUSTOMER (IF NECESSARY)	ESTIMATE MANHOURS	TOTAL MANHOURS	VERIFIED BY	DATE

COMPONENT / MATERIAL REQUIRED

NO	DESCRIPTION	PART NUMBER	QTY	SERIAL NO/BATCH NO/ P.O. NO	MATERIAL COST
1.	BATTERY PACK	ABS-D7P-01-100	1	78032	

Distribution Copies : White-Attached to the work package. Blue-Customer. Red-Production Dept. Yellow - Quality Control
The article identified herein was inspected/repaired/tested in accordance with the current approved or accepted data as refered and is consider approved to return to service.
BT-RRF-010 / R0, issued date 10 July 2019

Gambar 4. 6 MDRR *Battery pack bad condition* (sumber : MDRR 1582700)

C. Removal

Sebelum melakukan replacement removal/installation Battery Pack kita harus mengikuti prosedure yang telah di jelaskan pada AMM (Aircraft Maintenance Manual) pada lampiran 4 AMM 33-51-06 bagaimana cara melakukan removal/installation Battery Pack.

1. Make sure the pilot's emergency light switch, on the overhead panel P5, is set to OFF mode
2. Open the circuit breaker and attach the safety tag.
3. Get access to the power supply containing the battery pack.

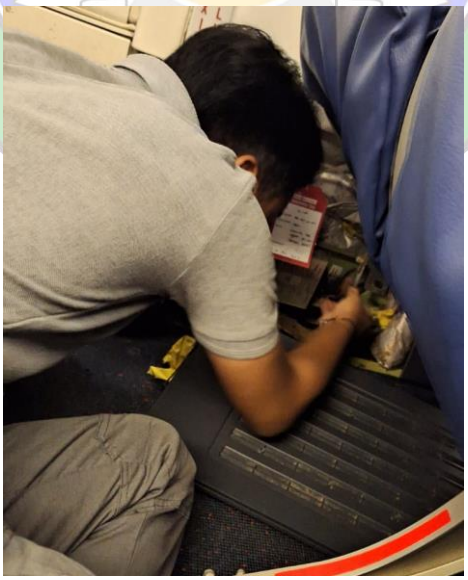
a. Open the access panel.
b. Remove screws and washers.
c. Remove battery access door.

4. Perform these steps to remove the battery:
   a. Loosen the fasteners.
   b. Lift the battery.

D. Installation

Pada Kegiatan *installation* yaitu memasang dan menutup kembali. Saat melakukan proses pemasangan battery pack, engineer dan mechanic harus memperhatikan ketepatan dan kesesuian agar tidak terjadi kesalahan yang tidak diinginkan

1. Perform these steps to install the battery pack:
   a. Align the connector pins with the power supply.
   b. Tighten the fasteners.
2. Test the new battery pack:
   a. Remove safety tag and tutup circuit breaker:
   b. Set the switch to ON mode.



Gambar 4. 7 *Replacement Battery Pack* (sumber: dokumentasi pribadi)

E. Operational Check

Kegiatan Operational Check dilakukan setelah pemasangan battery pack pada pesawat selesai dipasang. Operational check dilakukan oleh engineer berdasarkan referensi AMM 33-51-06-960-805 Rev 83 yang ditunjukkan pada lampiran 3. Engineer akan melakukan double check dan memastikan pemasangan battery pack sesuai dengan prosedur, setelah dilakukanya pergantian part Battery Pack yang baru, didapatkan hasil dengan kembalinya berfungsi *emergency light escape hatch*.

4.4.2 Openable Window- Adjusment/Test

A. Identification

Pada tanggal 18 Mei 2024 dilakukan kegiatan berupa general visual inspection pada emergency light yang ada di kabin pesawat. Kegiatan ini merupakan bagian dari C- check pada pesawat Boeing 737-900ER dengan kode regristrasi PK-LFO. Pada saat dilakukan inspeksi ditemukan permasalahan pada *emergency exit window* yaitu tidak dapat berfungsi.

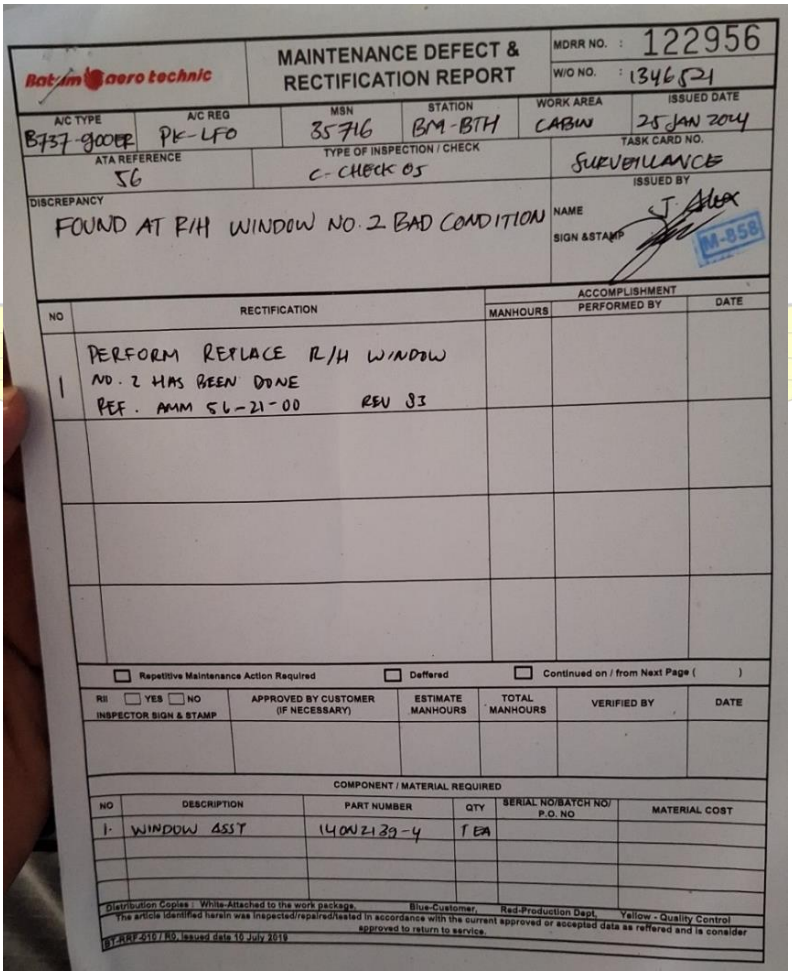
Gambar 4. 8 Lokasi emergency exit window (sumber: sumber pribadi)

B. Inspection

Kegiatan Inspection ini yang dilakukan mechanic ini digunakan untuk melihat kelengkapan bagian dari struktur yang mudah dilihat, selain itu dilakukan pengamatan secara visual pada bagian-bagian yang dapat mempengaruhi dari

emergency exit window. Dalam pelaksanaannya mechanic menemukan pada emergency exit window pada bagian R/H window ditemukan bahwa emergency exit window tidak berfungsi dengan baik.

Langkah selanjutnya, dibuat dokumen MDRR (Maintenance Defect dan Rectification Report) oleh engineer. Gambar 4.9 menunjukkan dokumen MDRR No. 122956 kemudian diterbitkan oleh PPC untuk menidaklanjuti pelaksanaan adjustment. Pelaksanaan adjusment pada emergency window dilakukan berdasarkan referensi dari AMM 56-12-11 ditunjukkan pada lampiran 6.



Batam aero technic

MAINTENANCE DEFECT & RECTIFICATION REPORT

MDRR NO. : 122956
W/O NO. : 134621

A/C TYPE	A/C REG	MSN	STATION	WORK AREA	ISSUED DATE
B737-900ER	PK-LFO	35716	BM-BTH	CABIN	25 JAN 2014

ATA REFERENCE: 56
TYPE OF INSPECTION / CHECK: C-CHECK 05
TASK CARD NO.: SURVEILLANCE
ISSUED BY

DISCREPANCY: FOUND AT R/H WINDOW NO.2 BAD CONDITION
NAME
SIGN &STAMP

NO	RECTIFICATION	ACCOMPLISHMENT MANHOURS	PERFORMED BY	DATE
1	PERFORM REPLACE R/H WINDOW NO.2 HAS BEEN DONE REF. AMM 56-21-00 REV 83			

☐ Repetitive Maintenance Action Required ☐ Deffered ☐ Continued on / from Next Page ( )

RII ☐ YES ☐ NO INSPECTOR SIGN & STAMP	APPROVED BY CUSTOMER (IF NECESSARY)	ESTIMATE MANHOURS	TOTAL MANHOURS	VERIFIED BY	DATE

COMPONENT / MATERIAL REQUIRED

NO	DESCRIPTION	PART NUMBER	QTY	SERIAL NO/BATCH NO/ P.O. NO	MATERIAL COST
1.	WINDOW ASST	140W2139-4	1 EA		

Distribution Copies : White-Attached to the work package, Blue-Customer, Red-Production Dept, Yellow - Quality Control
The article identified herein was inspected/repaired/tested in accordance with the current approved or accepted data as reffered and is consider approved to return to service.
BAMF-010 / R0, issued date 10 July 2019

Gambar 4. 9 MDRR R/H *window* No.2 *bad condition* (sumber: MDRR 122956)

Pada permasalahan kali ini terdapat kemungkinan yang bisa dilakukan performance untuk mengatasi troubleshoot yang terjadi, Melakukan adjusment pada bagian camshaft pin.

Gambar 4. 10 *Emergency Exit Release Adjustment* (sumber: dokumentasi pribadi)

C. Operational Check

Kegiatan Operational Check dilakukan setelah adjusment selesai. Operational check dilakukan oleh engineer berdasarkan referensi AMM 56-12-11-710-803 yang ditunjukkan pada lampiran 5. Engineer akan melakukan double check dan memastikan pemasangan window lights sesuai dengan prosedur, setelah dilakukanya Setelah dilakukan adjustment berdasarkan referensi AMM (Aircraft Maintenance Manual) TASK 56-12-11 pada lampiran 6, didapatkan hasil dengan kembalinya berfungsi *emergency window* dengan baik.

Gambar 4. 11 Lokasi *Camshaft* (sumber: dokumentasi pribadi)

4.4.3 Replacement Wheel

A. Indentification

Pada tanggal 10 Juni 2024 pesawat Boeing 737-900ER dengan kode regristrasi PK-LFO dilakukan *schedule maintenance* sudah memasuki waktu C-Check yang harus dilakukan general visual inspection pada main landing gear wheel and tire yang dilakukan dengan tujuan untuk melakukan *Inspection* pada area tersebut.

B. Inspection

Kegiatan Inspection ini yang dilakukan mechanic ini digunakan untuk melihat kelengkapan bagian dari struktur yang mudah dilihat, untuk mengetahui apakah terdapat korosi, crack, dan mengukur tekanan tier tetap pada 200-210 PSIG (Pound per square inch gauge) untuk memastikan semua tire is good condition. Pada gambar 4.12 ditemukan deepcut pada tire sehingga perlu dilakukan replacement wheel dengan yang baru.

Gambar 4. 12 *Pound per square inch gauge* (sumber: dokumentasi pribadi)

C. Servicing

Tindakan Servicing dilakukan dengan melepas dan mengganti Wheel yang mengalami deep cut atau menipis. Tire yang baru akan dipasang sesuai dengan part

number dari tire tersebut. Setelah dilakukan pemasangan dengan Tire yang baru, Main Landing Gear dapat beroperasi dengan maksimal dan safety.

Gambar 4. 13 *Wheel PK-LFO* (sumber: dokumentasi pribadi)

D. Removal

Kegiatan *removal* yaitu membuka *acces* main landing gear *wheel* . Procedure membuka main landing gear wheel tersebut yang sudah tertera pada AMM 32-45-11-400-801 pada lampiran 8, lalu mekanik melakukan *Detail Visual Inspection pada main landing gear (L/H).*

Gambar 4. 14 *Diassembly wheel* (sumber: dokumentasi pribadi)

E. Installation

Pada Kegiatan *installation* yaitu memasang dan menutup access pada bagian Main Landing Gear. Saat melakukan proses pemasangan Main Landing Gear Wheel and Tire, engineer dan mechanic harus memperhatikan ketepatan dan kesesuian agar tidak terjadi kesalahan yang tidak diinginkan dapat dilihat pada lampiran 9.

Gambar 4. 15 Servicing replacement wheel (sumber: dokumentasi pribadi)

F. Operational Check

Kegiatan *operational check* dilakukan oleh *engineer. Engineer* akan melakukan *double check* setelah *mechanic* melakukan *cleaning* dan setelah menyelesaikan pemasangan. *Double check* dilakukan untuk memastikan *re-assembly* sesuai dengan *AMM* 32-45-11-400-801.

G. *Close taskcard*

Pada *close taskcard engineer* akan melakukan *close taskcard* sesuai permasalahan serta menambahkan tanda tangan dan stamp engineer pada taskcard dan membuat resume book laporan sesuai taskcard yang akan dilaporkan kepada chief line masing-masing.

4.4.4 Replacement Weather Radar Receiver/Transmitter

A. Identification

Pada tanggal 6 Juni 2024 dilakukan kegiatan berupa replacement pada weather radar receiver/transmitter yang ada di nose pesawat. Kegiatan ini merupakan bagian dari C- check pada pesawat Boeing 737-900ER dengan kode regristrasi PK-LFO. Pada saat dilakukan operational check pada ditemukan permasalahan pada *display weather radar* yaitu tidak dapat menampilkan data yang diterima.

B. Inspection

Kemudian engineer melakukan troubleshooting dengan menukar (crosschange) pada *weather radar receiver/transmitter* dengan pesawat lain , dan di dapatkan setelah dilakukan penukaran weather radar receiver transmitter, display weather radar dapat kembali menampilkan data. Disimpulkan bahwa permasalahan terletak pada weather radar receiver/transmitter tersebut.

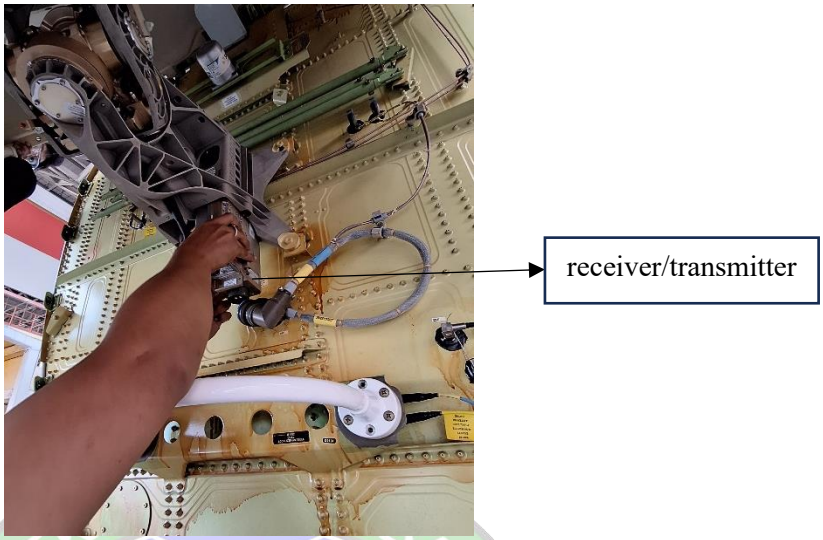
Langkah selanjutnya, engineer melakukan replacement yaitu dengan melakukan robing meminjam part pesawat lain untuk digunakan di pesawat PK-LFO, replacement di lakukan sesuai dengan prosedur AMM 34-43-41 dapat dilihat pada lampiran 10.

C. Removal

Sebelum melakukan removal weather radar receiver/transmitter kita harus mengikuti prosedure yang telah di jelaskan pada AMM (Aircraft Maintenance Manual) berdasarkan lampiran 10, AMM 34-43-41 bagaimana cara melakukan removal/installation weather radar receiver/transmitter.

1. Weather Radar Receiver/Transmitter Removal
    1. Removal procedure:
    a) Open circuit breakers and install safety tags
    b) Open the access panel/radome
    c) Remove the receiver/transmitter:
        - Loosen the two captive screws that hold the receiver/transmitter on the Antenna Drive Unit
        - Remove the receiver/transmitter from the Antenna Drive Unit.

d) Install the protective cover on the electrical connector.



Gambar 4. 16 *removal weather radar receiver/transmitter* (sumber: dokumentasi pribadi)

D. Installation

Pada Kegiatan *installation* yaitu memasang dan menutup kembali. Saat melakukan proses pemasangan weather radar receiver/transmitter, engineer dan mechanic harus memperhatikan ketepatan dan kesesuian agar tidak terjadi kesalahan yang tidak diinginkan, prosedure installation harus dilakukan sesuai dengan AMM 34-43-41 pada lampiran 10.

1. Weather Radar Receiver/Transmitter Installation
   1. Installation Procedure
   a) Perform an inspection of the Weather Radar Receiver/Transmitter from dust.
   b) Perform a cleaning of the connectors before installation.

Gambar 4. 17 *Contact Cleaner* (sumber: dokumentasi pribadi)

c) Make sure the circuit breakers are open and have safety tags.
d) Remove the protective cover from the electrical connector.
e) To install the Receiver/Transmitter, perform the following tasks:
   - Attach the receiver/transmitter to the Antenna Drive Unit.
   - Tighten the captive screw to 30-35 pound-inches.
   - Connect the electrical connector.

1. Return the aircraft to its usual condition, close the radome access panel.

Gambar 4. 18 *Weather Radar Receiver/Transmitter Installation* (sumber: dokumentasi pribadi)

E. Operational check

Kegiatan Operational Check dilakukan setelah weather radar receiver/transmitter pada pesawat selesai dipasang. Operational check dilakukan oleh engineer berdasarkan referensi AMM 34-43-42-400-801 pada lampiran 12 Engineer akan melakukan double check dan memastikan pemasangan weather radar receiver/transmitter sesuai dengan prosedur, setelah dilakukanya pergantian part weather radar receiver/transmitter yang baru, didapatkan hasil dengan kembalinya berfungsi *display* weather radar.

Gambar 4. 19 *Display weather radar* (sumber: dokumentasi pribadi)

4.4.5 Replacement Reheater

A. Identification

Pada tanggal 28 Mei 2024 dilakukan kegiatan berupa replacement pada reheater yang berada di Lower Wing-To-Body Fairing - Under Wing Box. Kegiatan ini merupakan bagian dari C- check pada pesawat Boeing 737-900ER dengan kode regristrasi PK-LFO.

B. Inspection

Kegiatan Inspection ini yang dilakukan mechanic ini digunakan untuk melihat kelengkapan bagian dari struktur yang mudah dilihat, untuk memastikan semua part is good condition, langkah selanjutnya mechanic melakukan replacement yang di lakukan sesuai dengan prosedur AMM 21-51-13 dapat dilihat pada lampiran 11.

C. Removal

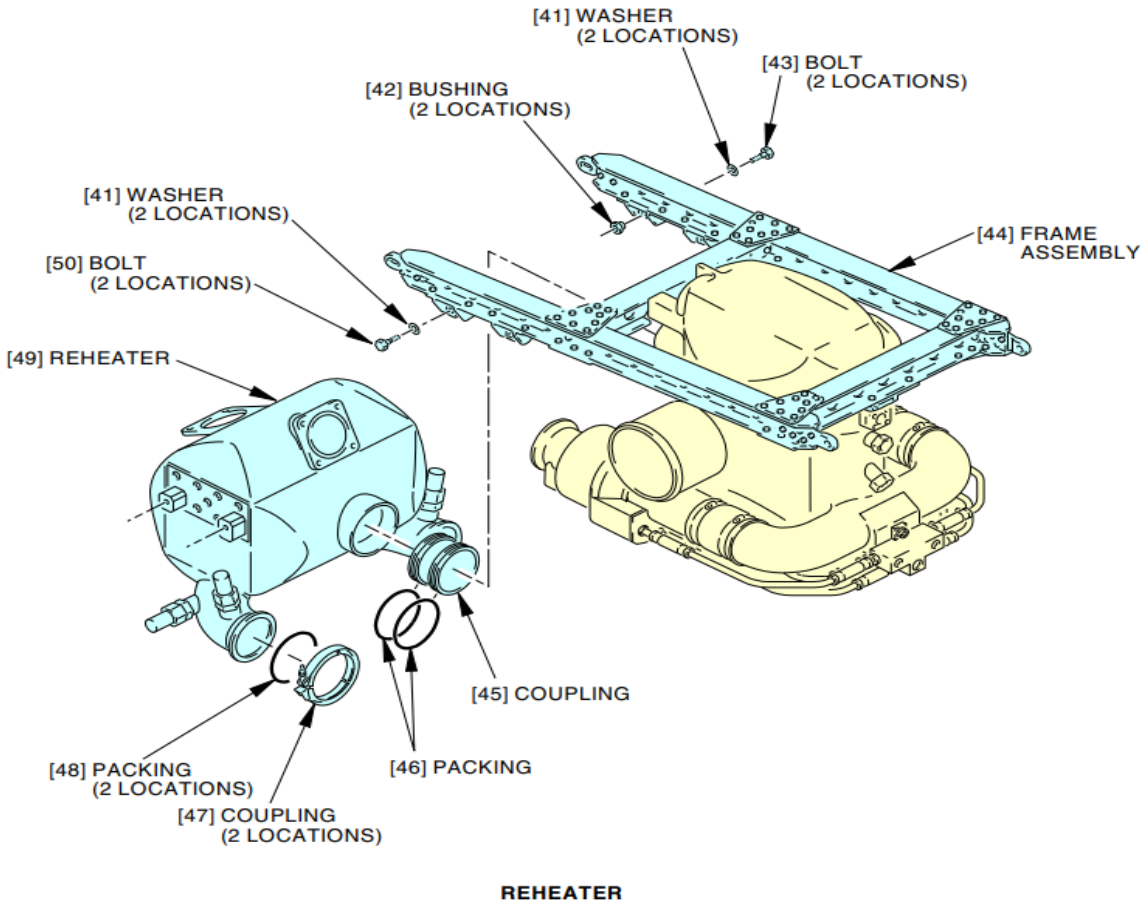
Sebelum melakukan removal reheater kita harus mengikuti prosedure yang telah di jelaskan pada AMM (Aircraft Maintenance Manual) pada lampiran 11 AMM 21-51-13-000-801 bagaimana cara melakukan removal/installation reheater.

Gambar 4. 20 *Remove reheater from the frame assembly* (sumber: dokumentasi pribadi)

D. Installation

Pada Kegiatan *Installation* yaitu memasang dan menutup kembali. Saat melakukan proses pemasangan reheater, engineer dan mechanic harus memperhatikan ketepatan dan kesesuian agar tidak terjadi kesalahan yang tidak diinginkan, prosedure re-assembly harus dilakukan sesuai dengan AMM 21-51-13-400-801 pada lampiran 11.

Gambar 4. 21 *Install the reheater on the frame assembly* (sumber: dokumentasi pribadi)



Gambar 4. 22 Komponen Reheater (sumber: AMM 21-51-13)

E. Reheater Installation Test

Kegiatan *installation test* dilakukan oleh *engineer. Engineer* akan melakukan *double check* setelah *mechanic* melakukan *cleaning* dan setelah menyelesaikan pemasangan. *Installation test* dilakukan untuk memastikan *re-assembly* tidak terjadi kebocoran sesuai dengan AMM 21-51-13-780-00 pada lampiran 13.

BAB 5
PENUTUP

5.1 Kesimpulan

5.1.1 Kesimpulan BAB IV

Berdasarkan uraian pada permasalahan dan penyelesaian masalah dapat disimpulkan pada kegiatan On the Job Training bahwa:

1. Pada *emergency light escape hatch* ini telah dilakukan nya replacement part dari *battery pack* nya, karena setelah dilakukanya pengecekan sesuai dengan FIM (Fault Insulation Manual) telah ditemukanya kerusakan pada *battery pack* nya dan harus digantikan dengan part yang baru.
2. Pada No.2 Openable Window Emergency Exit ini telah dilakukan adjusment dari part tersebut yaitu pada camshaft nya sesuai dengan AMM (Aircraft Maintenance Manual) ditemukan bahwa permasalahan nya yaitu pada bagian camshaft nya dan perlu di adjusment.
3. Tire yang mengalami deepcut sehingga sesuai AMM diganti dengan part baru. serta dilakukanya pengecheckan ulang agar *Main Landing Gear* dapat berfungsi sebagaimana mestinya.
4. Setelah dilakukan nya replacement weather radar receiver/transmitter, lalu dilakukan operational check (OPC) untuk mengetahui apakah weather radar receiver/transmitter berfungsi secara baik.
5. Setelah dilakukan nya replacement pada reheater maka langkah selanjutnya adalah melakukan Reheater Installation Test untuk mengetahui apakah ada kebocoran atau tidak, dan layak untuk digunakan yang di jelaskan pada AMM SUBTASK 21-51-13-860-003.

5.1.2. Kesimpulan Pelaksanaan OJT

Berdasarkan kegiatan On The Job Training (OJT) yang telah dilaksanakan, maka dapat diambil kesimpulan bahwa On The Job Training (OJT) bermanfaat bagi taruna/taruni yang melaksanakan kegiatan tersebut. Pelaksanaan kegiatan sangat bermanfaat dilihat dari:

1. Kemampuan Kerja:

   Taruna dapat mengaplikasikan teori yang diperoleh dari pendidikan dengan praktek sebenarnya yang ada di lapangan. Jadi, dengan mengikuti kegiatan tersebut, taruna/taruni dapat mengukur kemampuan kerja masing – masing.
2. Pengembangan Wawasan dan Kreatifitas:

   Taruna/taruni dapat mengembangkan wawasan dan kreatifitas sehingga dapat menumbuhkan profesionalisme. Oleh karena itu, kegiatan ini sangat perlu dilaksanakan oleh taruna/taruni untuk menambah gambaran dalam dunia kerja.
3. Inisiatif Dari Pemaparan:

   Dapat disimpulkan bahwa, ketika kita mengalami pengalaman pekerjaan disuatu perusahaan dibidang apa saja, sangat menunjang kita dalam berkarir terutama keberanian berspekulasi dengan kesempatan yang ada untuk menuju kesuksesan.
4. Disiplin dan Tanggung Jawab:

   Selain itu, kegiatan ini dapat menambah kedisiplinan untuk mematuhi aturan yang berlaku serta belajar bertanggung jawab dari setiap tindakan maupun keputusan yang kita ambil.

5.2 Saran

5.2.1 Saran Terhadap BAB IV

Beberapa saran untuk mencegah atau menangani masalah yang terjadi seperti pada laporan penulis:

1. Tidak perlu panik ketika mendapat troubleshooting di lapangan.
2. Cari dan temukan sumber masalah dari sebuah troubleshooting.
3. Selalu melihat referensi dari Maintenance Manual maupun Troubleshooting Manual untuk menyelesaikan masalah yang ditemukan dan dihadapi di lapangan.
4. Selalu berkomunikasi dengan Engineer maupun Inspector untuk menyelesaikan troubleshooting yang ditemukan dilapangan.
5. Jangan mengambil tindakan inisiatif tanpa diketahui engineer

maupun Supervisor

5.2.2 Saran Terhadap Pelaksanaan OJT

Berdasarkan kegiatan On the Job Training yang telah dilaksanakan dapat diambil kesimpulan bahwa pelaksanaan kegiatan ini sangat dibutuhkan untuk dapat mengaplikasikan ilmu yang telah diperoleh, sehingga dapat memberikan manfaat. Pelaksanaan kegiatan sangat bermanfaat ditinjau dari:

1. Selalu perhatikan masalah safety dalam melaksanakan prosedur kerja sebaik – baiknya untuk menciptakan pesawat agar Safe for Flight
2. Melaksanakan pekerjaan sesuai dengan waktu yang ditentukan, baik itu waktu pengerjaan, istirahat, maupun penyelesaian.
3. Dalam mengerjakan suatu pekerjaan, gunakan tools seperlunya
4. Menjunjung tinggi semangat, dan mindset pikiran bahwa costumers adalah prioritas utama.
5. Ikuti setiap arahan dari atasan sebelum memulai sebuah pekerjaan.
6. Bersikap disiplin dan selalu sigap serta tanggap dalam melakukan pekerjaan.
7. Mencatat setiap kegiatan yang dilakukan dan menerapkan setiap apa yang dicatat.
8. Peduli dengan kebersihan lingkungan sekitar work area.
9. Selalu check list tools yang akan dipakai dalam bekerja.
10. Berkonsentrasi penuh dan hindari kecerobohan dalam setiap pekerjaan.Menjalin hubuengan baik antar crew/anggota maintenance.

DAFTAR PUSTAKA

BATAM AERO TECHNIC .VISI DAN MISI PERUSAHAAN http://batamaerotechnic.com/helpdesk/news/index.php

BATAM AERO TECHNIC SEJARAH BATAM AERO TECHNIC. http://batamaerotechnic.com/helpdesk/news/index.php

Boeing Company, B737-600/700/800/900ER *Maintenance Manual, Chapter* 33. *Light.*

Boeing Company, B737-600/700/800/900ER *Fault Isolation Manual, Chapter* 33. *Light.*

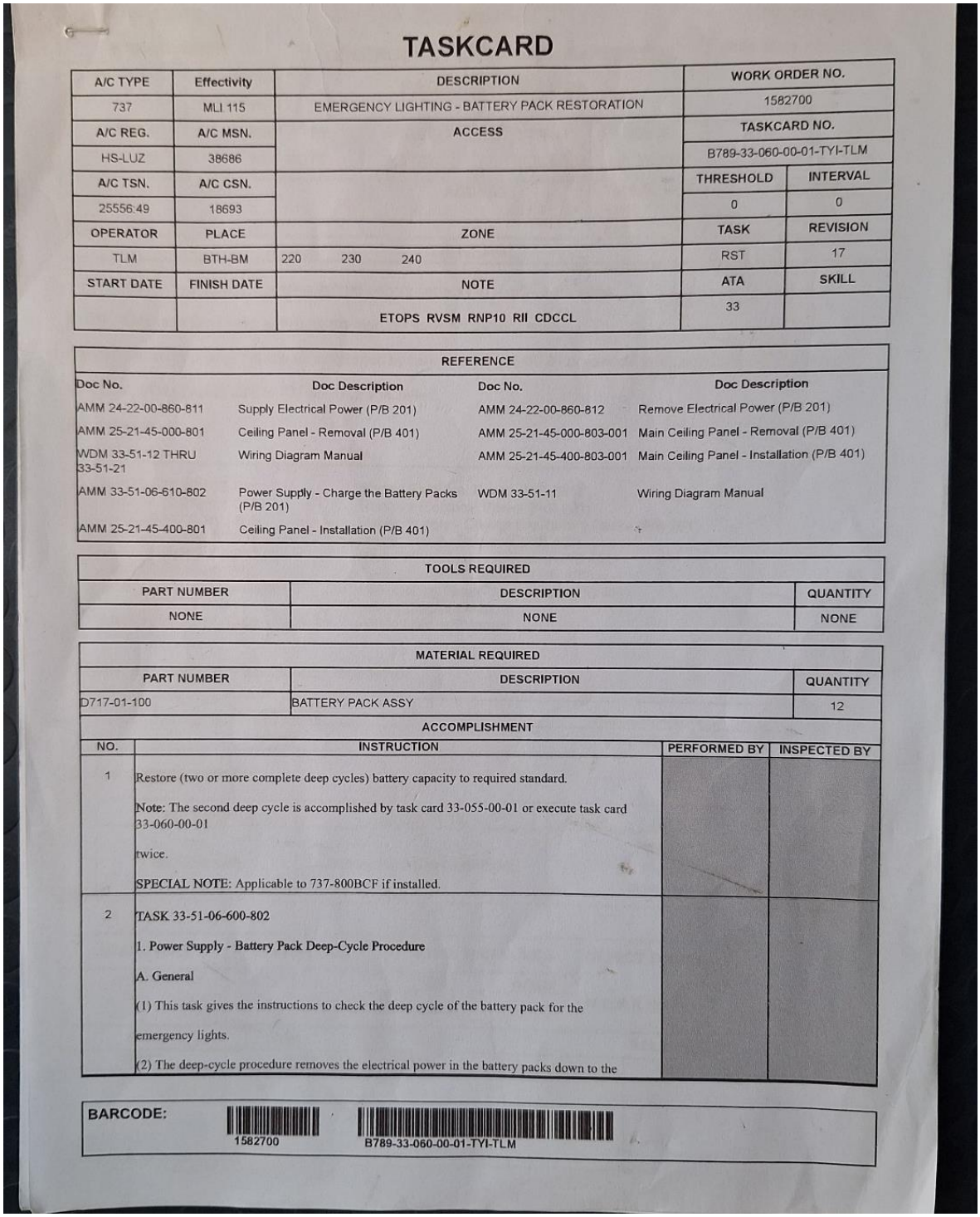
Boeing Company, B737-600/700/800/900ER *Maintenance Manual, Chapter* 56. *Windows*.

Boeing Company, B737-600/700/800/900ER *Fault Isolation Manual, Chapter* 56. *Windows.*

Boeing Company, B737-600/700/800/900ER *Maintenance Manual, Chapter* 32. *Landing gear.*

LAMPIRAN

Lampiran 1. A. Taskcard Emergency Light – Battery Pack Restoration



TASKCARD

A/C TYPE	Effectivity	DESCRIPTION	WORK ORDER NO.	
737	MLI 115	EMERGENCY LIGHTING - BATTERY PACK RESTORATION	1582700	
A/C REG.	A/C MSN.	ACCESS	TASKCARD NO.	
HS-LUZ	38686		B789-33-060-00-01-TYI-TLM	
A/C TSN.	A/C CSN.		THRESHOLD	INTERVAL
25556:49	18693		0	0
OPERATOR	PLACE	ZONE	TASK	REVISION
TLM	BTH-BM	220 230 240	RST	17
START DATE	FINISH DATE	NOTE	ATA	SKILL
		ETOPS RVSM RNP10 RII CDCCL	33	

REFERENCE			
Doc No.	Doc Description	Doc No.	Doc Description
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)	AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 25-21-45-000-801	Ceiling Panel - Removal (P/B 401)	AMM 25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
WDM 33-51-12 THRU 33-51-21	Wiring Diagram Manual	AMM 25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
AMM 33-51-06-610-802	Power Supply - Charge the Battery Packs (P/B 201)	WDM 33-51-11	Wiring Diagram Manual
AMM 25-21-45-400-801	Ceiling Panel - Installation (P/B 401)		

TOOLS REQUIRED		
PART NUMBER	DESCRIPTION	QUANTITY
NONE	NONE	NONE

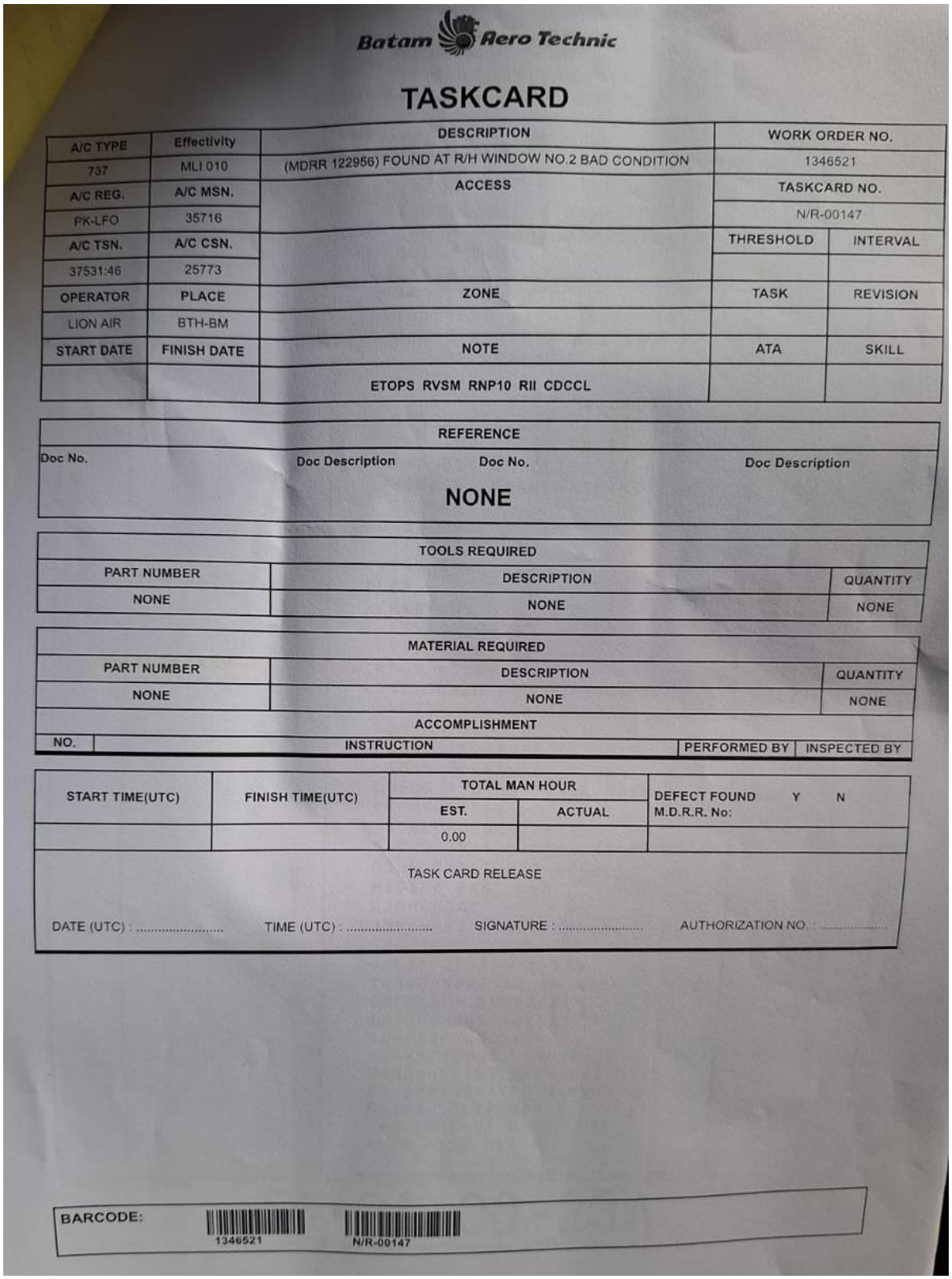
MATERIAL REQUIRED		
PART NUMBER	DESCRIPTION	QUANTITY
D717-01-100	BATTERY PACK ASSY	12

ACCOMPLISHMENT

NO.	INSTRUCTION	PERFORMED BY	INSPECTED BY
1	Restore (two or more complete deep cycles) battery capacity to required standard. Note: The second deep cycle is accomplished by task card 33-055-00-01 or execute task card 33-060-00-01 twice. SPECIAL NOTE: Applicable to 737-800BCF if installed.		
2	TASK 33-51-06-600-802 1. Power Supply - Battery Pack Deep-Cycle Procedure A. General (1) This task gives the instructions to check the deep cycle of the battery pack for the emergency lights. (2) The deep-cycle procedure removes the electrical power in the battery packs down to the		

BARCODE: 1582700 B789-33-060-00-01-TYI-TLM

Lampiran 2. B. Taskcard No. 2 Openable Window



Batam Aero Technic

TASKCARD

A/C TYPE	Effectivity	DESCRIPTION	WORK ORDER NO.	
737	MLI 010	(MDRR 122956) FOUND AT R/H WINDOW NO.2 BAD CONDITION	1346521	
A/C REG.	A/C MSN.	ACCESS	TASKCARD NO.	
PK-LFO	35716		N/R-00147	
A/C TSN.	A/C CSN.		THRESHOLD	INTERVAL
37531:46	25773			
OPERATOR	PLACE	ZONE	TASK	REVISION
LION AIR	BTH-BM			
START DATE	FINISH DATE	NOTE	ATA	SKILL
		ETOPS RVSM RNP10 RII CDCCL		

REFERENCE			
Doc No.	Doc Description	Doc No.	Doc Description
NONE			

TOOLS REQUIRED		
PART NUMBER	DESCRIPTION	QUANTITY
NONE	NONE	NONE

MATERIAL REQUIRED		
PART NUMBER	DESCRIPTION	QUANTITY
NONE	NONE	NONE

ACCOMPLISHMENT			
NO.	INSTRUCTION	PERFORMED BY	INSPECTED BY

START TIME(UTC)	FINISH TIME(UTC)	TOTAL MAN HOUR		DEFECT FOUND Y N M.D.R.R. No:
		EST.	ACTUAL	
		0.00		

TASK CARD RELEASE

DATE (UTC) : ..... TIME (UTC) : ..... SIGNATURE : ..... AUTHORIZATION NO. : .....

BARCODE: 1346521 N/R-00147

Lampiran 3. C. AMM Emergency Light – Operational Check

TASK 33-51-00-720-801

3. Emergency Lights - Operational Check

(Figure 501, Figure 502 or Figure 503, Figure 504, Figure 505, and Figure 506)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This check makes sure that all components in the emergency lighting system operate.

B. References

Reference	Title
33-51-06-610-802	Power Supply - Charge the Battery Packs (P/B 201)

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Emergency Lights Operational Check

SUBTASK 33-51-00-610-001

(1) Make sure that the battery packs are fully charged before you do this task (TASK 33-51-06-610-802).

MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

SUBTASK 33-51-00-860-028

(2) At the aft attendant panel, make sure that the BSI LED lighting system is turned off.

MLI ALL

SUBTASK 33-51-00-860-029

(3) At the P5 overhead panel, set the DOME switch to the OFF mode.

SUBTASK 33-51-00-710-003

(4) Do a check of the emergency lighting system with the pilots emergency light switch.

(a) At the P5 overhead panel, set the pilots emergency light switch to the ON mode.

NOTE: If the emergency light switch at the aft attendant panel is set to the ON mode, the emergency lights will turn on even if the emergency light switch at the P5 is set to the OFF mode. If the P5 emergency light switch is used for the operational check, then the emergency light switch at the aft attendant panel should be set to the NORMAL mode.

1) Make sure that the emergency dome light, L00273, comes on (Figure 501).

NOTE: The location of the emergency dome light is in the flight deck.

2) Make sure that the exterior lights come on (Figure 506).

NOTE: This check includes all slide and overwing lights.

3) Make sure that these lights in the passenger compartment come on.

- Aisle area light (Figure 502 or Figure 503)
- Overdoor exit sign (Figure 504)
- Overwing hatch handle lights (Figure 504)
- Exit locator sign (Figure 504)
- Exit indicator light (Figure 504)

- Floor proximity light (Figure 505)
- If applicable, flood light.

(b) Set the switch to the OFF mode.

1) Make sure that the emergency dome light, L00273, goes off (Figure 501).

NOTE: The location of the emergency dome light is in the flight deck.

2) Make sure that the NOT ARMED indication shows on the P5 panel.

3) Make sure that these lights in the passenger compartment go off:

- Aisle area light (Figure 502 or Figure 503)
- Overdoor exit sign (Figure 504)
- Overwing hatch handle lights (Figure 504)
- Exit locator sign (Figure 504)
- Exit indicator light (Figure 504)
- Floor proximity light (Figure 505)
- If applicable, flood light.

4) Make sure that the exterior lights go off (Figure 506).

(c) Set the switch to the ARMED mode.

1) Make sure that the light stays off.

2) Make sure that no lighting indication shows on the P5 panel.

(d) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	10	C01357	PASS CABIN LIGHTING EMER CHGR L AFT
A	11	C00250	PASS CABIN LIGHTING EMER CHGR FWD
MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999			
B	9	C01582	PASS CABIN LIGHTING EMER CHGR MID
MLI ALL			
B	10	C01358	PASS CABIN LIGHTING EMER CHGR R AFT

1) Make sure that the emergency dome light, L00273, comes on (Figure 501).

NOTE: The location of the emergency dome light is in the flight deck.

2) Make sure that these emergency lights in the passenger compartment come on:

- Aisle area light (Figure 502 or Figure 503)
- Overdoor exit sign (Figure 504)
- Overwing hatch handle lights (Figure 504)
- Exit locator sign (Figure 504)
- Exit indicator light (Figure 504)
- Floor proximity light (Figure 505)
- If applicable, flood light.

3) Make sure that the exterior emergency lights come on (Figure 506).

3) Make sure that the emergency dome light, L00273, comes on (Figure 501).

NOTE: The location of the emergency dome light is in the flight deck.

(b) Set the switch to the NORMAL mode.

1) Make sure that these lights in the passenger compartment go off:

- Aisle area light (Figure 502 or Figure 503)
- Overdoor exit sign (Figure 504)
- Overwing hatch handle lights (Figure 504)
- Exit locator sign (Figure 504)
- Exit indicator light (Figure 504)
- Floor proximity light (Figure 505)
- If applicable, flood light.

2) Make sure that the exterior lights go off (Figure 506).

3) Make sure that the emergency dome light, L00273, goes off (Figure 501).

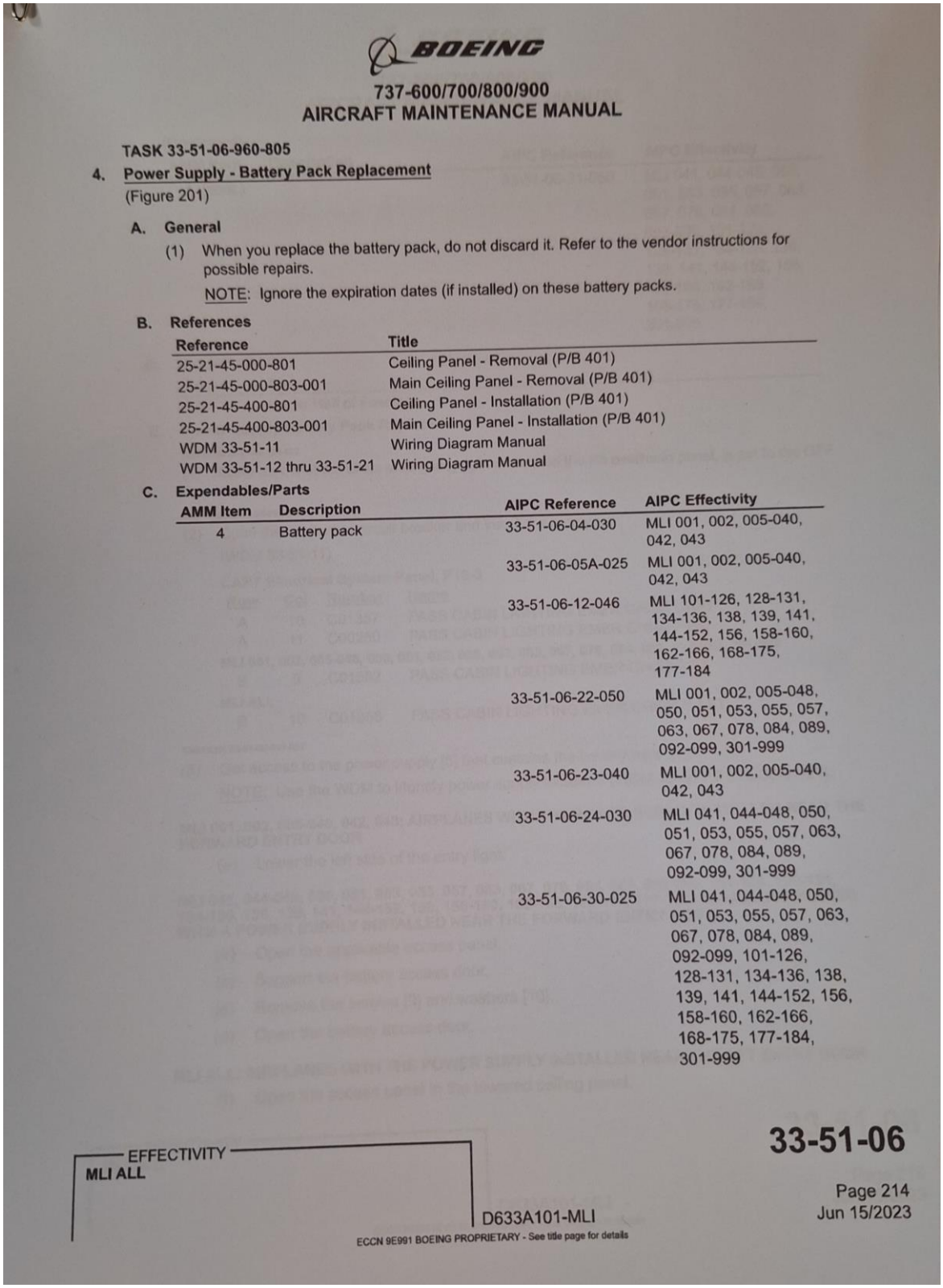
NOTE: The location of the emergency dome light is in the flight deck.

SUBTASK 33-51-00-610-003

(8) Do this task: Power Supply - Charge the Battery Packs, TASK 33-51-06-610-802.

END OF TASK

Lampiran 4. D. AMM Power Supply – Battery Pack Replacement



BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 33-51-06-960-805

4. Power Supply - Battery Pack Replacement

(Figure 201)

A. General

(1) When you replace the battery pack, do not discard it. Refer to the vendor instructions for possible repairs.

NOTE: Ignore the expiration dates (if installed) on these battery packs.

B. References

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
WDM 33-51-11	Wiring Diagram Manual
WDM 33-51-12 thru 33-51-21	Wiring Diagram Manual

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Battery pack	33-51-06-04-030	MLI 001, 002, 005-040, 042, 043
		33-51-06-05A-025	MLI 001, 002, 005-040, 042, 043
		33-51-06-12-046	MLI 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184
		33-51-06-22-050	MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999
		33-51-06-23-040	MLI 001, 002, 005-040, 042, 043
		33-51-06-24-030	MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999
		33-51-06-30-025	MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

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(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
4 (cont.)		33-51-06-31-050	MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

D. Location Zones

Zone	Area
200	Upper Half of Fuselage

E. Power Supply Battery Pack Replacement

SUBTASK 33-51-06-860-027

(1) Make sure that the pilots emergency light switch, on the P5 overhead panel, is set to the OFF mode.

SUBTASK 33-51-06-860-012

(2) Open the applicable circuit breaker and install the safety tag:

(WDM 33-51-11)

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	10	C01357	PASS CABIN LIGHTING EMER CHGR L AFT
A	11	C00250	PASS CABIN LIGHTING EMER CHGR FWD

MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999

B	9	C01582	PASS CABIN LIGHTING EMER CHGR MID

MLI ALL

B	10	C01358	PASS CABIN LIGHTING EMER CHGR R AFT

SUBTASK 33-51-06-010-004

(3) Get access to the power supply [5] that contains the battery pack [4].

NOTE: Use the WDM to identify power supply locations (WDM 33-51-12 thru 33-51-21).

MLI 001, 002, 005-040, 042, 043; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE FORWARD ENTRY DOOR

(a) Lower the left side of the entry light.

MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999; AIRPLANES WITH A POWER SUPPLY INSTALLED NEAR THE FORWARD ENTRY DOOR

(b) Open the applicable access panel.

(c) Support the battery access door.

(d) Remove the screws [9] and washers [10].

(e) Open the battery access door.

MLI ALL; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE AFT ENTRY DOOR

(f) Open the access panel in the lowered ceiling panel.

MLI ALL; AIRPLANES WITH THE POWER SUPPLY INSTALLED ALONG THE SIDEWALL NEAR THE FLOOR

(g) Remove the sidewall carpet riser.

MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE EMERGENCY EXIT DOOR

(h) Do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

NOTE: The battery pack is installed on the ceiling panel.

MLI ALL

SUBTASK 33-51-06-960-005

(4) Do these steps to remove the battery pack [4]:

(a) Loosen the fasteners [3].

CAUTION KEEP THE BATTERY PACK PARALLEL TO THE TOP SURFACE OF THE CHARGER WHEN YOU LIFT IT. DAMAGE TO THE TWO PLASTIC PROJECTIONS CAN OCCUR IF YOU DO NOT OBEY THIS INSTRUCTION.

(b) Lift away the battery pack [4] to disconnect its pins from the base of the power supply [5].

SUBTASK 33-51-06-960-006

(5) Do these steps to install the battery pack [4]:

(a) Align the connector pins with the base of the power supply [5].

1) Install the battery pack [4].

(b) Tighten the fasteners [3].

SUBTASK 33-51-06-710-004

(6) Do a test of the new battery pack [4].

(a) Remove the safety tag and close the applicable circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	10	C01357	PASS CABIN LIGHTING EMER CHGR L AFT
A	11	C00250	PASS CABIN LIGHTING EMER CHGR FWD
MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999			
B	9	C01582	PASS CABIN LIGHTING EMER CHGR MID
MLI ALL			
B	10	C01358	PASS CABIN LIGHTING EMER CHGR R AFT

(b) Set the test switch [7] to the ON mode.

1) Make sure that the lights and signs connected to the battery pack [4] come on.

NOTE: Use the WDM to identify the individual lights and signs (WDM 33-51-12 thru 33-51-21).

2) If the lights and sign do not come on, supply electrical power to the airplane to charge the battery pack [4] (TASK 33-51-06-610-802).

NOTE: The battery packs in the emergency light power supplies are continuously charged when electrical power is supplied to the airplane, unless the emergency light switches are set to the on mode. If the battery packs are fully drained, the time necessary to charge them is 180 minutes. If the battery pack is not fully discharged at initiation of the charge, the object will detect the fully charged condition, ending the charge mode and entering the maintenance phase prior to the 180 minutes re-charge time.

a) Do the test again.

(c) After approximately one minute, make sure that all emergency lights and signs go off automatically.

F. Put the Airplane Back to Its Usual Condition

MLI 001, 002, 005-040, 042, 043; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE FORWARD ENTRY DOOR

SUBTASK 33-51-06-410-010

(1) Install the entry light.

MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999; AIRPLANES WITH A POWER SUPPLY INSTALLED NEAR THE FORWARD ENTRY DOOR

SUBTASK 33-51-06-410-024

(2) Close the battery access door as follows:

(a) Close and hold the battery access door.

(b) Install the screws [9] and washers [10] through the clip and to the battery access door.

(c) Tighten the screws [9].

SUBTASK 33-51-06-410-021

(3) Close the access panel.

MLI ALL; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE AFT ENTRY DOOR

SUBTASK 33-51-06-410-011

(4) Close the access panel in the lowered ceiling panel.

MLI ALL; AIRPLANES WITH THE POWER SUPPLY INSTALLED ALONG THE SIDEWALL NEAR THE FLOOR

SUBTASK 33-51-06-410-012

(5) Install the sidewall carpet riser.

MLI 001, 002, 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 301-999; AIRPLANES WITH THE POWER SUPPLY INSTALLED NEAR THE EMERGENCY EXIT DOOR

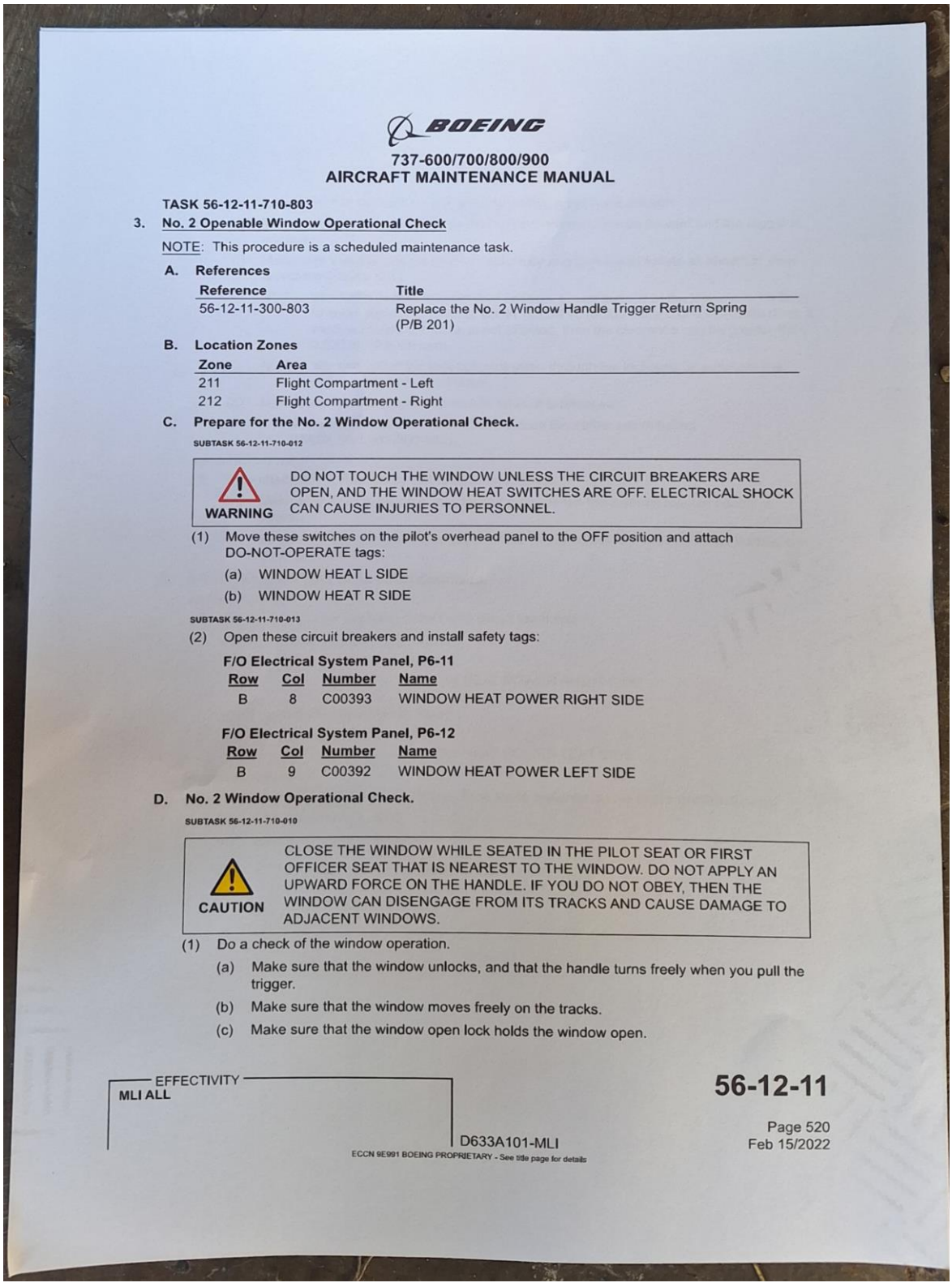
SUBTASK 33-51-06-410-013

(6) Do this task: Ceiling Panel - Installation, TASK 25-21-45-400-801 or Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

MLI ALL

END OF TASK

Lampiran 5. E. AMM No. 2 Openable Window Operational Check



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TASK 56-12-11-710-803

3. No. 2 Openable Window Operational Check

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
56-12-11-300-803	Replace the No. 2 Window Handle Trigger Return Spring (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Prepare for the No. 2 Window Operational Check.

SUBTASK 56-12-11-710-012

WARNING: DO NOT TOUCH THE WINDOW UNLESS THE CIRCUIT BREAKERS ARE OPEN, AND THE WINDOW HEAT SWITCHES ARE OFF. ELECTRICAL SHOCK CAN CAUSE INJURIES TO PERSONNEL.

(1) Move these switches on the pilot's overhead panel to the OFF position and attach DO-NOT-OPERATE tags:
   (a) WINDOW HEAT L SIDE
   (b) WINDOW HEAT R SIDE

SUBTASK 56-12-11-710-013

(2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

D. No. 2 Window Operational Check.

SUBTASK 56-12-11-710-010

CAUTION: CLOSE THE WINDOW WHILE SEATED IN THE PILOT SEAT OR FIRST OFFICER SEAT THAT IS NEAREST TO THE WINDOW. DO NOT APPLY AN UPWARD FORCE ON THE HANDLE. IF YOU DO NOT OBEY, THEN THE WINDOW CAN DISENGAGE FROM ITS TRACKS AND CAUSE DAMAGE TO ADJACENT WINDOWS.

(1) Do a check of the window operation.
   (a) Make sure that the window unlocks, and that the handle turns freely when you pull the trigger.
   (b) Make sure that the window moves freely on the tracks.
   (c) Make sure that the window open lock holds the window open.

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(d) Make sure that the window can be unlocked from the open position.

(e) Make sure that the window locks shut when the handle is fully forward and the trigger is released.

(f) Make sure that the lock pin on the handle fully engages the lockplate as shown in View A-A of the (Figure 504).

NOTE: Window is in the closed/locked position. Lower surface of the lock pin to be flush to lower surface of stiffener within +0.020 in. (0.508 mm)/-0.000 in. (0.000 mm). If window handle operation is not affected, then the clearance can be greater than 0.020 in. (0.5080 mm)

NOTE: You can adjust the lock bolt protrusion through the lockplate by adjusting the stiffener location, up or down.

(g) Make sure that the trigger returns fully when it is released.

1) If the trigger does not return fully, replace the trigger return spring (TASK 56-12-11-300-803).

SUBTASK 56-12-11-710-011

(2) Do a check of the emergency exit release mechanism.

(a) Make sure that the window unlocks and opens when the external release handle is pulled.

(b) Make sure that the external release handle is aligned with the skin when the handle is in the flight position.

E. Put the Airplane Back to its Usual Condition.

SUBTASK 56-12-11-860-010

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 56-12-11-800-004

(2) Remove the DO-NOT-OPERATE tags from these switches on the pilot's overhead panel:

(a) WINDOW HEAT L SIDE.

(b) WINDOW HEAT R SIDE.

END OF TASK

Lampiran 6. F. AMM No. 2 *Openable Window Adjusment*

H. No. 2 Openable Window Adjustment

SUBTASK 56-12-11-010-005

(1) Remove the clothing guard [5] if it is necessary to do the adjustment.

SUBTASK 56-12-11-020-010

(2) Do this task: No. 2 Openable Window Removal, TASK 56-12-11-000-801.

SUBTASK 56-12-11-820-003

(3) If it is necessary, adjust the Forward-Aft position of the window assembly [1].

(a) The clearance for the forward edge must be 0.08 ±0.03 in. (2.03 ±0.76 mm).

(b) The clearance for the aft edge must be 0.08 +0.14 / -0.06 in. (2.03 +3.56 / -1.53 mm).

(c) Put a mark on the serrated plate [10] to record the position of the guide pin [8] before adjustment.

(d) Move the guide pin [8] forward or aft to get to the specified clearance:

1) Lift the bulb pressure seal [7] out of the groove in the window rim to get access to the countersunk bolt.

NOTE: It is not necessary to remove all of the bulb pressure seal out of the groove.

2) Loosen the attachment bolt [9] that attach the guide pin [8] to the serrated plate [10].

3) Move the guide pin [8].

NOTE: There are 28 serrations per 1 in. (25 mm) on the serrated plate. Each serration will move the guide pin 0.036 in. (0.914 mm) forward or aft.

a) If it is necessary, move the guide pin [8] forward to move the window assembly [1] aft.

b) If it is necessary, move the guide pin [8] aft to move the window assembly [1] forward.

4) Tighten the attachment bolt [9] on the guide pin [8].

SUBTASK 56-12-11-820-005

(4) If it is necessary adjust the vertical position of the window.

(a) The clearance for the top and bottom edges must be 0.12 ±0.10 in. (3.05 ±2.54 mm).

(b) To increase the vertical position of the window assembly [1], do these steps:

1) Add a shim washer [40] between the forward lower bellcrank [34] and forward lower roller [42], the aft lower bellcrank [4], and aft lower roller [38].

a) Loosen the setscrews [37] in the forward lower bellcrank [34] and aft lower bellcrank [4].

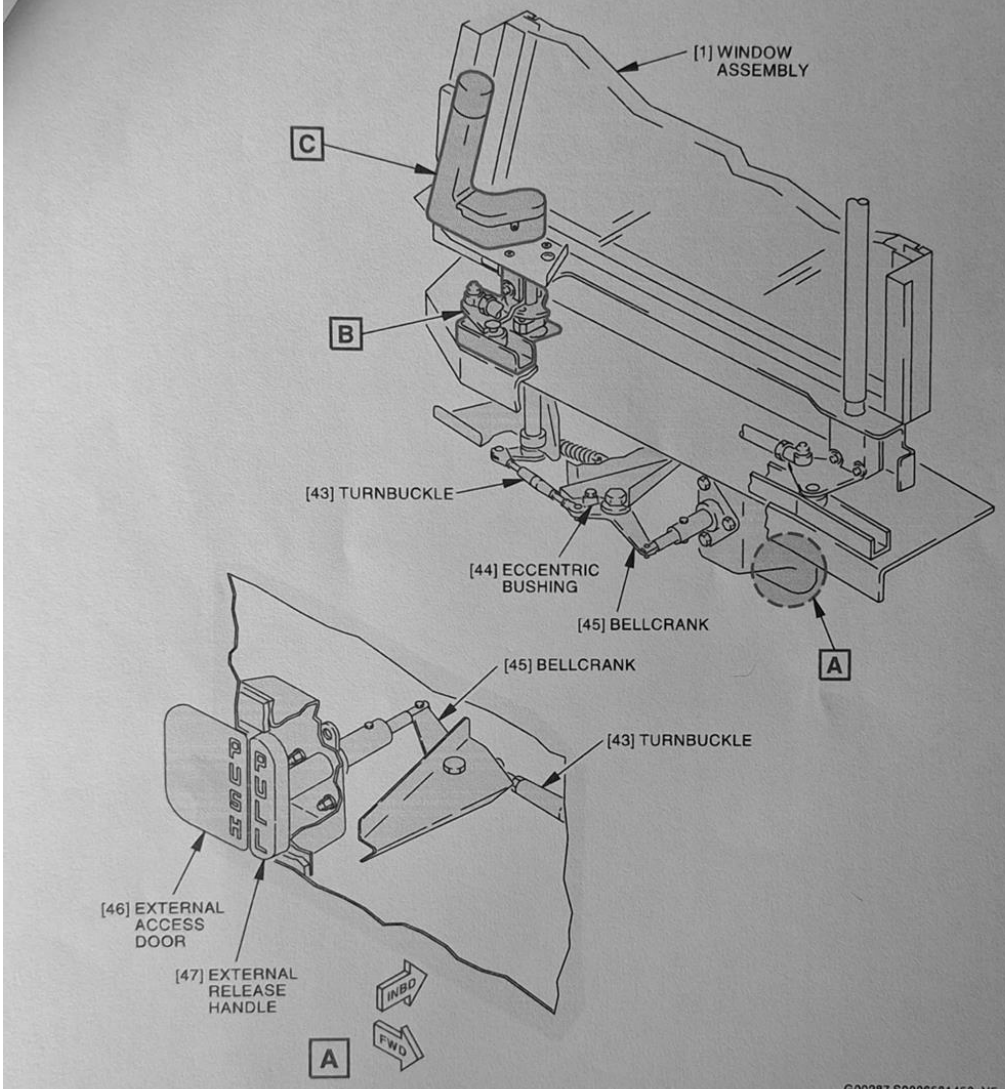
b) Remove the special bolts [39].

c) Add a shim washer [40] to the forward lower roller [42] and to aft lower roller [38].

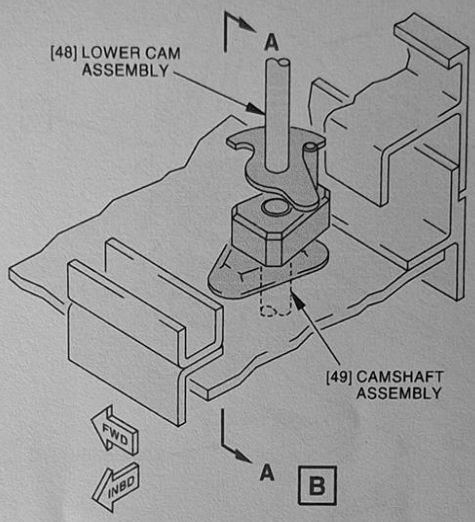
<1> Do not add more than eight shim washer [40] to one roller.

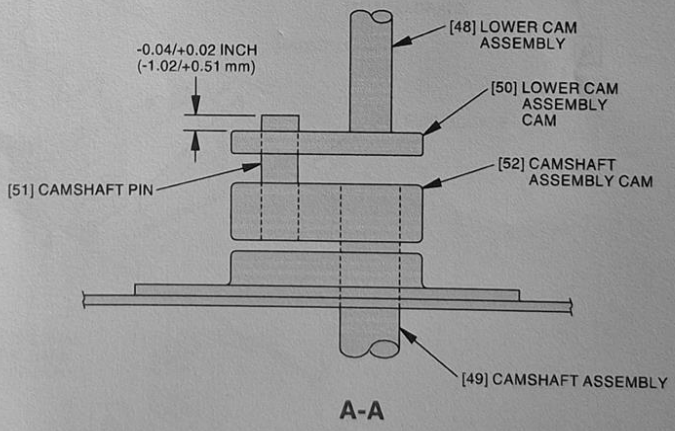
<2> If it is necessary, add an equal number of shim washer [40] to each lower roller.

NOTE: This will adjust the window assembly vertically only.



Emergency Exit Release Adjustment
Figure 503/56-12-11-990-832 (Sheet 1 of 3)





A-A

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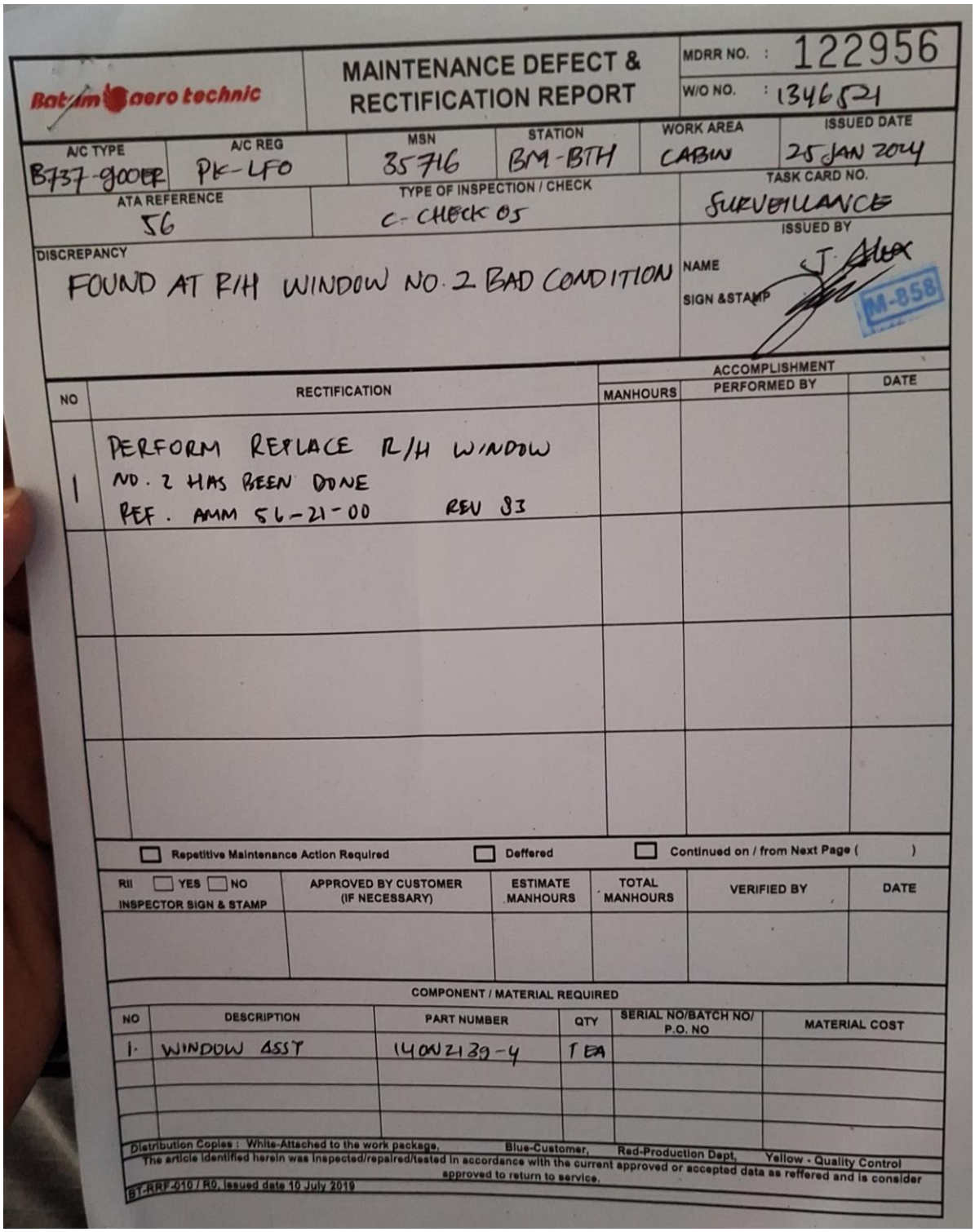
Emergency Exit Release Adjustment
Figure 503/56-12-11-990-832 (Sheet 2 of 3)

Lampiran 7. G. MDRR No. 2 Openable Window



Batam aero technic

MAINTENANCE DEFECT & RECTIFICATION REPORT

MDRR NO. : 122956

W/O NO. : 1346521

A/C TYPE	A/C REG	MSN	STATION	WORK AREA	ISSUED DATE
B737-900ER	PK-LFO	35716	BM-BTH	CABIN	25 JAN 2014

ATA REFERENCE	TYPE OF INSPECTION / CHECK	TASK CARD NO.
56	C-CHECK 05	SURVEILLANCE

DISCREPANCY: FOUND AT R/H WINDOW NO. 2 BAD CONDITION

ISSUED BY — NAME: J. Alex — SIGN &STAMP: M-858

NO	RECTIFICATION	ACCOMPLISHMENT MANHOURS	PERFORMED BY	DATE
1	PERFORM REPLACE R/H WINDOW NO. 2 HAS BEEN DONE REF. AMM 56-21-00 REV 83			

☐ Repetitive Maintenance Action Required ☐ Deffered ☐ Continued on / from Next Page ( )

RII ☐ YES ☐ NO INSPECTOR SIGN & STAMP	APPROVED BY CUSTOMER (IF NECESSARY)	ESTIMATE MANHOURS	TOTAL MANHOURS	VERIFIED BY	DATE

COMPONENT / MATERIAL REQUIRED

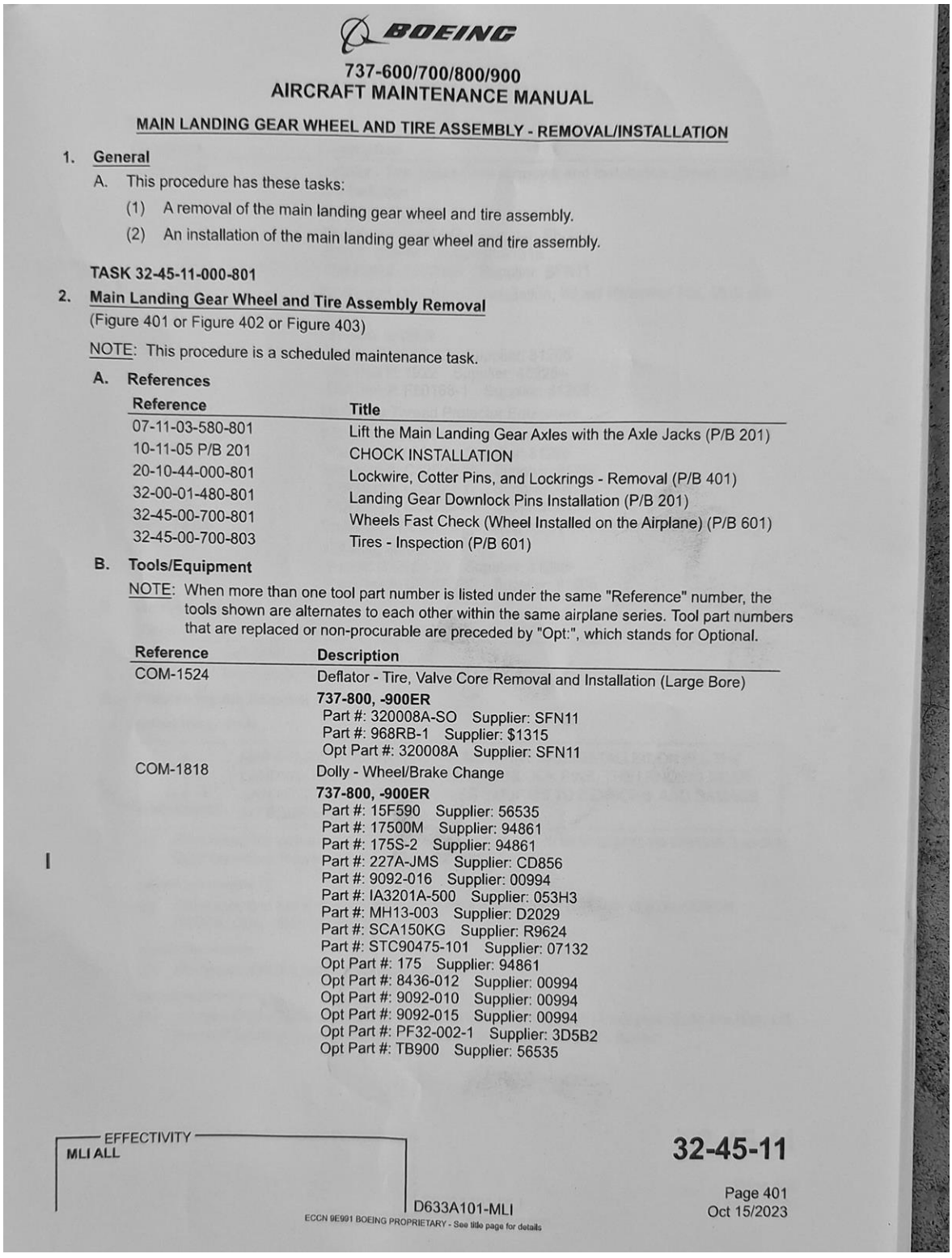
NO	DESCRIPTION	PART NUMBER	QTY	SERIAL NO/BATCH NO/ P.O. NO	MATERIAL COST
1.	WINDOW ASST	140W2139-4	1 EA		

Distribution Copies : White-Attached to the work package, Blue-Customer, Red-Production Dept, Yellow - Quality Control

The article identified herein was inspected/repaired/tested in accordance with the current approved or accepted data as reffered and is consider approved to return to service.

BT-RRF-010 / R0, Issued date 10 July 2019

Lampiran 8. H. AMM Main Landing Gear Wheel and Tire Assembly Removal



BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

MAIN LANDING GEAR WHEEL AND TIRE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear wheel and tire assembly.

(2) An installation of the main landing gear wheel and tire assembly.

TASK 32-45-11-000-801

2. Main Landing Gear Wheel and Tire Assembly Removal

(Figure 401 or Figure 402 or Figure 403)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
07-11-03-580-801	Lift the Main Landing Gear Axles with the Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-44-000-801	Lockwire, Cotter Pins, and Lockrings - Removal (P/B 401)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-00-700-801	Wheels Fast Check (Wheel Installed on the Airplane) (P/B 601)
32-45-00-700-803	Tires - Inspection (P/B 601)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) **737-800, -900ER** Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11
COM-1818	Dolly - Wheel/Brake Change **737-800, -900ER** Part #: 15F590 Supplier: 56535 Part #: 17500M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 227A-JMS Supplier: CD856 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 053H3 Part #: MH13-003 Supplier: D2029 Part #: SCA150KG Supplier: R9624 Part #: STC90475-101 Supplier: 07132 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: PF32-002-1 Supplier: 3D5B2 Opt Part #: TB900 Supplier: 56535

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Reference	Description
COM-4046	Deflator - Tire, Valve Core Removal and Installation (Small Bore) and Tire Deflation **737-800, -900ER** Part #: 320008B-SO Supplier: SFN11 Part #: 968RB Supplier: $1315 Opt Part #: 320008B Supplier: SFN11
SPL-1865	Equipment - Removal / Installation, Wheel Retention Nut, MLG and NLG **737-800, -900ER** Part #: C32012-12 Supplier: 81205 Opt Part #: 1922 Supplier: 45225 Opt Part #: F80168-1 Supplier: 81205
SPL-1876	MLG Axle Thread Protector Equipment **737-800, -900ER** Part #: C32022-38 Supplier: 81205 Opt Part #: C32022-15 Supplier: 81205 Opt Part #: C32022-17 Supplier: 81205 Opt Part #: C32022-23 Supplier: 81205
SPL-14320	Protector - Thread, Eqpt, MLG Axle (1/8 inch undersized threads) **737-800, -900ER** Part #: C32022-39 Supplier: 81205 Opt Part #: C32022-32 Supplier: 81205

C. Location Zones

Zone	Area
734	Left Main Landing Gear
744	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-45-11-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 32-45-11-480-002

(2) Make sure that the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-11-860-001

(3) Make sure that the parking brake is released.

SUBTASK 32-45-11-580-001

(4) Lift the wheel and tire assemblies with jacks until they are clear of the ground, do this task: Lift the Main Landing Gear Axles with the Axle Jacks, TASK 07-11-03-580-801.

SUBTASK 32-45-11-860-002

(5) Make sure that the parking brake is set.

NOTE: When you set the parking brake, the brake rotors will be aligned for wheel installation.

SUBTASK 32-45-11-840-001

WARNING FULLY DEFLATE THE TIRE BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. OR, DO AN INSPECTION OF THE WHEEL AND TIRE TO MAKE SURE THAT THEY ARE SAFE. AIR PRESSURE CAN CAUSE AN EXPLOSION OF THE DAMAGED WHEEL AND TIRE COMPONENTS. INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

WARNING REMOVE ONLY ONE WHEEL AND TIRE ASSEMBLY FROM THE MAIN LANDING GEAR AT A TIME. IF YOU REMOVE THE TWO WHEEL AND TIRE ASSEMBLIES AT THE SAME TIME, STRUCTURAL DAMAGE AND INJURY TO PERSONS CAN OCCUR IF THE AIRPLANE FALLS.

(6) Do the following steps to examine the tire and wheel assembly to see if it is safe to remove without tire deflation, or deflate the tire:

NOTE: If you will not install the same wheel and tire assembly, deflate the tire to prevent transporting an inflated tire.

(a) Inspect the outboard wheel and tire assembly [1] and/or the inboard wheel and tire assembly [17] to see if it has the conditions that follow:

1) Inspect the tires and make sure that there are no air leaks, abrasions, unusual worn areas, cuts or flat spots, do this task: Tires - Inspection, TASK 32-45-00-700-803.

2) Inspect the wheels and make sure that there is no evidence of wheel damage, including corrosion, loose or damaged or missing tire bolts or tire nuts, overheat damage or cracks, do this task: Wheels Fast Check (Wheel Installed on the Airplane), TASK 32-45-00-700-801.

3) If the wheel and tire assembly has any of the conditions in the above steps, you must deflate the tire.

WARNING MAKE SURE THAT ALL PERSONNEL ARE CLEAR OF THE INFLATION VALVE ASSEMBLY PATH WHILE YOU REMOVE IT. IF THE INFLATION VALVE ASSEMBLY EJECTS WHILE YOU REMOVE IT, INJURY TO PERSONNEL CAN OCCUR.

CAUTION MAKE SURE THAT THE DEFLATED TIRE THAT IS ON THE AXLE DOES NOT TOUCH THE GROUND. IF THE TIRE DOES TOUCH THE GROUND, THE TIRE'S BEAD SEAT CAN MOVE OUT OF ITS POSITION AND BECOME UNSEATED. THE UNSEATED BEAD SEAT CAN CAUSE LEAKAGE WHICH THEN CAN CAUSE DAMAGE TO THE TIRE AND WHEEL.

(CAUTION PRECEDES)

CAUTION DO NOT USE TOO MUCH FORCE ON THE VALVE CORE. THE CORE PARTS CAN MOVE AND THE SLEEVE AND THE LOWER END OF THE POPPET WILL STAY IN THE VALVE STEM. IF PARTS STAY IN THE VALVE STEM, DAMAGE CAN OCCUR TO THE VALVE STEM.

(b) Deflate the tire with the small bore tire deflator, COM-4046, or large bore tire deflator, COM-1524.

NOTE: If the wheel and tire are not damaged, it is acceptable to leave approximately 50 psi (345 kPa) or 25% of the service pressure in the tire while deflating. Leaving approximately 50 psi (345 kPa) or 25% of the service pressure in the tire can prevent damage to the tire when the wheel and tire are transported.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the valve assembly slowly in a counterclockwise direction until there is gas leakage through the boss.
2) At the same time, push lightly on the valve assembly.
3) After all of the gas has been released, remove the valve assembly from the tire.

E. Main Landing Gear Wheel and Tire Assembly Removal

SUBTASK 32-45-11-020-001

(1) Remove the hubcap [3] from the outboard wheel and tire assembly [1] or hubcap [18] from the inboard wheel and tire assembly [17], do these steps for the applicable wheel:

(a) For the outboard wheel and tire assembly [1], turn the cam-locs [4] 1/4 turn to disconnect the hubcap fairing [5] from the hubcap [3].
(b) Remove the lockwire from the bolts [6] (TASK 20-10-44-000-801).
(c) Remove the bolts [6] and washers [7] to disconnect the hubcap from the wheel.
(d) Remove the hubcap from the wheel.

SUBTASK 32-45-11-020-002

(2) Remove the outboard wheel and tire assembly [1] or inboard wheel and tire assembly [17], do these steps for the applicable wheel:

(a) Remove the nuts [8], washers [9], and bolts [10] that hold the axle nut [16] to the axle.

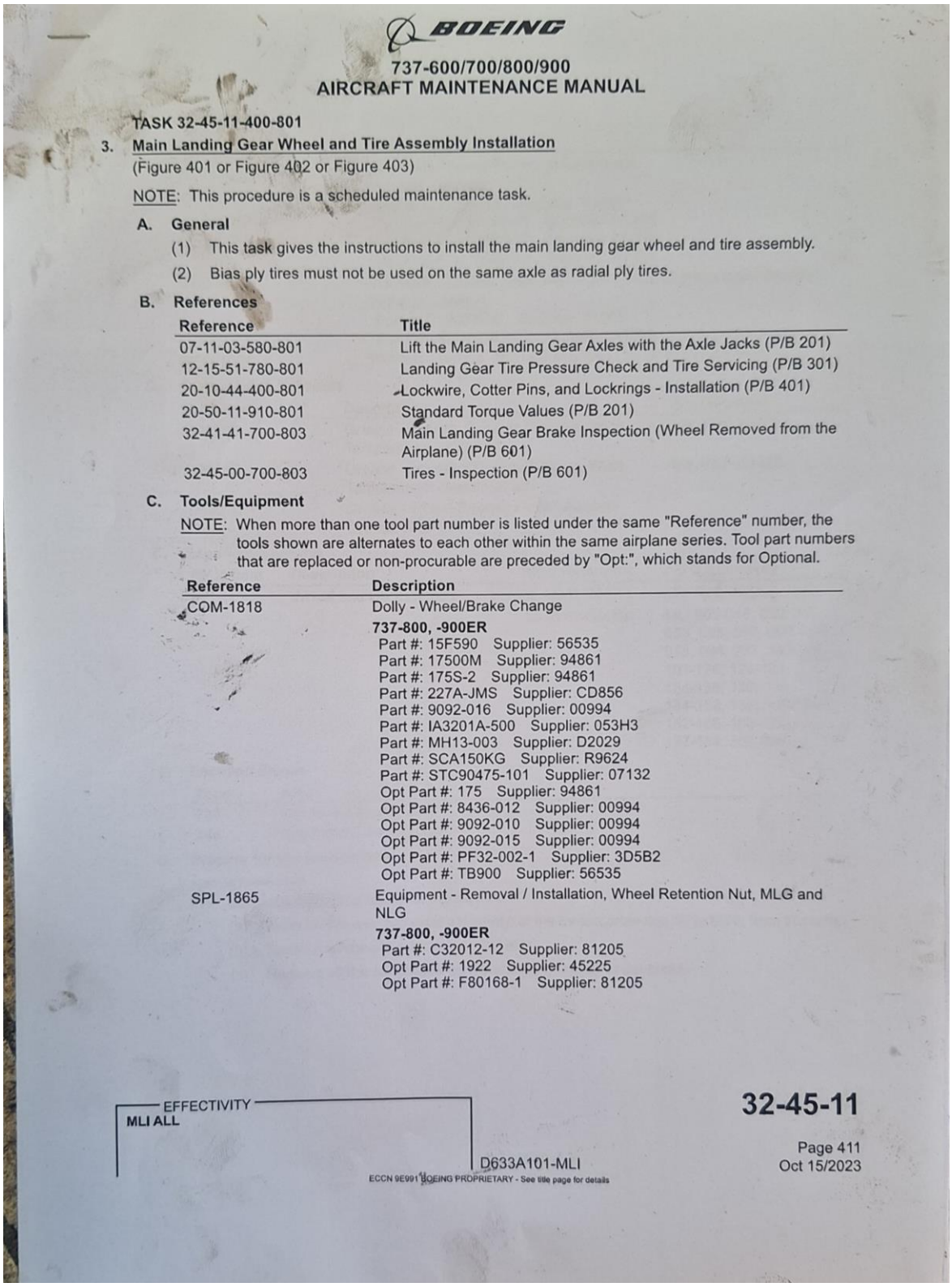
WARNING DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

(b) Remove the nut [16] with the socket, SPL-1865.
(c) Remove the retention washer [15].
(d) Install the thread protector assembly, of the thread protector, SPL-1876, or the thread protector, SPL-14320, (for undersized threads) on the axle threads.

Table 401/32-45-11-993-801 Main Landing Gear (MLG) - Thread Protector for Kit C32022*

Optional Part # (Kit)	Actual Tool #
C32022-15	C32022-16
C32022-17	C32022-18

Lampiran 9. I. AMM Main Landing Gear Wheel and Tire Installation



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TASK 32-45-11-400-801

3. Main Landing Gear Wheel and Tire Assembly Installation

(Figure 401 or Figure 402 or Figure 403)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task gives the instructions to install the main landing gear wheel and tire assembly.

(2) Bias ply tires must not be used on the same axle as radial ply tires.

B. References

Reference	Title
07-11-03-580-801	Lift the Main Landing Gear Axles with the Axle Jacks (P/B 201)
12-15-51-780-801	Landing Gear Tire Pressure Check and Tire Servicing (P/B 301)
20-10-44-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
20-50-11-910-801	Standard Torque Values (P/B 201)
32-41-41-700-803	Main Landing Gear Brake Inspection (Wheel Removed from the Airplane) (P/B 601)
32-45-00-700-803	Tires - Inspection (P/B 601)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1818	Dolly - Wheel/Brake Change **737-800, -900ER** Part #: 15F590 Supplier: 56535 Part #: 17500M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 227A-JMS Supplier: CD856 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 053H3 Part #: MH13-003 Supplier: D2029 Part #: SCA150KG Supplier: R9624 Part #: STC90475-101 Supplier: 07132 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: PF32-002-1 Supplier: 3D5B2 Opt Part #: TB900 Supplier: 56535
SPL-1865	Equipment - Removal / Installation, Wheel Retention Nut, MLG and NLG **737-800, -900ER** Part #: C32012-12 Supplier: 81205 Opt Part #: 1922 Supplier: 45225 Opt Part #: F80168-1 Supplier: 81205

EFFECTIVITY
MLI ALL

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ECCN 9E991 BOEING PROPRIETARY - See title page for details

32-45-11

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(Continued)

Reference	Description
SPL-1876	MLG Axle Thread Protector Equipment **737-800, -900ER** Part #: C32022-38 Supplier: 81205 Opt Part #: C32022-15 Supplier: 81205 Opt Part #: C32022-17 Supplier: 81205 Opt Part #: C32022-23 Supplier: 81205
SPL-14320	Protector - Thread, Eqpt, MLG Axle (1/8 inch undersized threads) **737-800, -900ER** Part #: C32022-39 Supplier: 81205 Opt Part #: C32022-32 Supplier: 81205
STD-1021	Wrench - Torque, 100 to 600 ft-lbs (135.58 to 813.48 N·m)

D. Consumable Materials

Reference	Description	Specification
D00233	Grease - Aircraft, General Purpose, Wide Temperature - Mobil 28	MIL-PRF-81322
D00378	Grease - Aircraft, General Purpose, Wide Temperature - Aeroshell 22	MIL-PRF-81322
D50005	Grease - Wheel Bearing - Mobil Aviation Grease SHC 100	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Wheel and tire assembly	32-45-11-01-011	MLI 001, 002
		32-45-11-02-010	MLI 005-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

F. Location Zones

Zone	Area
734	Left Main Landing Gear
744	Right Main Landing Gear

G. Prepare for the Installation

SUBTASK 32-45-11-840-003

(1) Do these steps to prepare for installation:

(a) Remove the axle protector assembly, of the thread protector, SPL-1876, from the axle.

(b) Remove all the old grease from the axle.

(c) Remove all the old grease from the inner diameter of the brake.

WARNING MAKE SURE THAT CORRECT PERSONAL PROTECTIVE EQUIPMENT IS USED FOR EYES DURING INSTALLATION AND REMOVAL OF THE BRAKE ASSEMBLY. IF CORRECT PERSONAL PROTECTIVE EQUIPMENT IS NOT USED BRAKE DUST CAN CAUSE INJURIES TO PERSON.

(d) Do an inspection of the brake.

NOTE: Do this inspection with special attention to the whole circumference of each rotor for the signs of a broken rotor drive clip(s).

1) Do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-41-41-700-803.

(e) Do an inspection of the axle.

(f) Examine the antiskid transducer drive components in the axle and hubcap [3], and hubcap [18] for damage.

(g) If the wheel is not new, inspect the bearings, seals, and other parts of the wheel assembly.

(h) If the tire is not new, do a tire inspection.

1) Do this task: Tires - Inspection, TASK 32-45-00-700-803.

(i) If it is necessary to install the wheel inboard and outboard bearing assemblies, do these steps:

1) Apply Aeroshell 22 grease, D00378, or Mobil 28 grease, D00233, or Mobil Aviation Grease SHC 100 grease, D50005, to all of the parts of the bearing assemblies.

CAUTION MAKE SURE THE CORRECT BEARING IS INSTALLED IN THE OUTSIDE OF THE WHEEL. INSTALLATION OF THE INNER BEARING IN THE OUTER BEARING WHEEL LOCATION CAN CAUSE WHEEL DAMAGE.

2) Install the inner bearing [12] in the inner side of the wheel and the outer bearing [13] in the outer side of the wheel.

CAUTION INSTALL THE CORRECT GREASE SEAL IN THE EXTERNAL PART OF THE WHEEL. INSTALLATION OF THE INNER GREASE SEAL IN THE OUTER GREASE SEAL WHEEL LOCATION CAN CAUSE SEAL DAMAGE.

3) Install the grease seal [11] in the inner side of the wheel and the grease seal [14] in the outer side of the wheel.

4) If part of the assembly, install the retaining ring [19] in the inner side of the wheel and the retaining ring [20] in the outer side of the wheel.

NOTE: Some wheel assemblies may not have the retaining rings as part of the configuration, or they may look different from those illustrated.

H. Main Landing Gear Wheel and Tire Assembly Installation

SUBTASK 32-45-11-420-001

(1) Do these steps to install the wheel and tire assembly [1]:

CAUTION DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

(a) Apply a thin layer of Aeroshell 22 grease, D00378, or Mobil 28 grease, D00233, or Mobil Aviation Grease SHC 100 grease, D50005, to the inner diameter surface of the two bearings where they will touch the axle.

(b) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil 28 grease, D00233, or Mobil Aviation Grease SHC 100 grease, D50005, to the faces of the washer [15] and nut [16], and to the axle threads.

(c) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil 28 grease, D00233, or Mobil Aviation Grease SHC 100 grease, D50005, on the axle where the axle will touch the wheel bearings.

WARNING MAKE SURE THAT CORRECT PERSONAL PROTECTIVE EQUIPMENT IS USED FOR EYES DURING INSTALLATION AND REMOVAL OF THE BRAKE ASSEMBLY. IF CORRECT PERSONAL PROTECTIVE EQUIPMENT IS NOT USED BRAKE DUST CAN CAUSE INJURIES TO PERSON.

(d) If you need to align the brake disks, do these steps:

1) Release the parking brake.

CAUTION MAKE SURE THE BRAKE ROTORS ARE ALIGNED. DAMAGE TO THE ROTORS CAN OCCUR IF THE DRIVE KEYS ON THE WHEEL HIT ROTORS DURING INSTALLATION.

2) Align the brake disks.

3) Set the parking brake.

NOTE: This will keep the brake rotors aligned.

(e) Make sure that the thread protector assembly, of the thread protector, SPL-1876, or thread protector, SPL-14320, (for undersized threads) is installed.

(f) Install the wheel and tire assembly [1] with the wheel/brake changer dolly, COM-1818.

1) Make sure that the rotor drive keys on the wheel fully engage the key slots in the brake rotors.

(g) Remove the thread protector assembly, of the thread protector, SPL-1876, or thread protector, SPL-14320, (for undersized threads) from the axle threads.

CAUTION MAKE SURE YOU FIRMLY PUSH BOTH THE WHEEL AND LOCK WASHER ALL THE WAY ONTO THE AXLE UNTIL THE WHEEL IS SEATED PRIOR TO INSTALLING AND TIGHTENING THE AXLE NUT. MAKE SURE THAT THE LOCKTANG IS FIRMLY ENGAGED IN THE KEYWAY GROOVE IN THE AXLE. DO NOT USE THE AXLE NUT TO PUSH THE WHEEL AND LOCK WASHER INTO POSITION. FAILURE TO FOLLOW THIS CAN CAUSE THE WHEEL TO BE LOOSE AND CAUSE DAMAGE TO THE EQUIPMENT.

(h) Install the washer [15].

(i) Install the nut [16].

(j) Release the parking brake.

WARNING DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

(k) Do these steps to tighten the nut [16] with the socket, SPL-1865, and torque wrench, STD-1021:

1) While you turn the wheel, tighten the nut [16] to 500 ft-lb (678 N·m) - 600 ft-lb (813 N·m).
2) Stop the wheel.
3) Loosen the nut [16] to almost zero torque.

NOTE: The function is to keep the bearing seated.

a) If the nut [16] is set to zero torque, re-seat the wheel.

4) While you turn the wheel, tighten the nut [16] to 150 ft-lb (203 N·m).
5) If the holes for bolt [10] do not align, continue to tighten the nut [16] to align the holes.

a) Do not tighten the nut [16] to more than 300 ft-lb (407 N·m).

NOTE: The holes will align every 6 degrees that you turn the nut.

(l) Do these steps to install the two bolts [10] to lock the nut [16] to the wheel and tire assembly [1]:

1) Install the two bolts [10] with the heads to the inside of the axle.
2) Install the washers [9] and nuts [8].
3) Check the self locking nuts (TASK 20-50-11-910-801).
4) Tighten the nuts [8] to 65 ±2 in-lb (7.3 ±0.2 N·m).

NOTE: This is per Standard Torque Values, TASK 20-50-11-910-801 to have the lowest maximum value when both nuts and the bolts can be tightened.

SUBTASK 32-45-11-420-002

CAUTION DO NOT TIGHTEN THE HUBCAP BOLTS TOO MUCH. MAKE SURE THAT THE HUBCAP IS IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE BOLTS. TOO MUCH TORQUE WILL CAUSE DAMAGE TO THE BOLTS AND THE HUBCAP.

(2) Install the hubcap [3] and hubcap [18].

(a) Do these steps to install the hubcap [3]:

1) Turn the antiskid transducer dog [2] inside the wheel and tire assembly [1] such that the drive on the hubcap [3] and antiskid transducer dog [2] in the wheel will connect when the hubcap [3] is installed.
2) Put the hubcap [3] in its position on the wheel and tire assembly [1].
3) Make sure that the hubcap [3] flush with the wheel and tire assembly [1].

a) Use a soft mallet to lightly tap the hubcap [3] to make it flush.

4) Install the bolts [6] and washers [7] to connect the hubcap [3] to the wheel and tire assembly [1].

a) Tighten the bolts [6] to 50 in-lb (5.65 N·m) - 80 in-lb (9.04 N·m).

5) Install lockwire on the bolts [6] (TASK 20-10-44-400-801).

NOTE: The installation of lockwire is acceptable on the fasteners which are over 6 in. (15 cm) apart at this location.

6) Put the hubcap fairing [5] on the hubcap [3].

7) Turn the eight cam-locs [4], 1/4 turn to attach the hubcap fairing [5] to the hubcap [3].

(b) Do these steps to install the hubcap [18]:

1) Turn the antiskid transducer dog [2] inside the inboard wheel and tire assembly [17] such that the drive on the hubcap [18], and the antiskid transducer dog [2] in the wheel will connect when the hubcap [18] is installed.

2) Put the hubcap [18] in its position on the inboard wheel and tire assembly [17].

3) Make sure that the hubcap [18] flush with the inboard wheel and tire assembly [17].

a) Use a soft mallet to lightly tap the hubcap [18] to make it flush.

4) Install the bolts [6] and washers [7] to connect the hubcap [18] to the inboard wheel and tire assembly [17].

a) Torque the bolts [6] to 50 in-lb (5.65 N·m) - 80 in-lb (9.04 N·m).

5) Install lockwire on the bolts [6] (TASK 20-10-44-400-801).

SUBTASK 32-45-11-860-003

(3) Make sure that the tire is inflated to at least half of the normal inflation pressure before you remove the jacks (TASK 12-15-51-780-801).

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-11-580-002

WARNING MAKE SURE THE AREA AROUND THE TIRES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE AREA AROUND THE TIRES IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

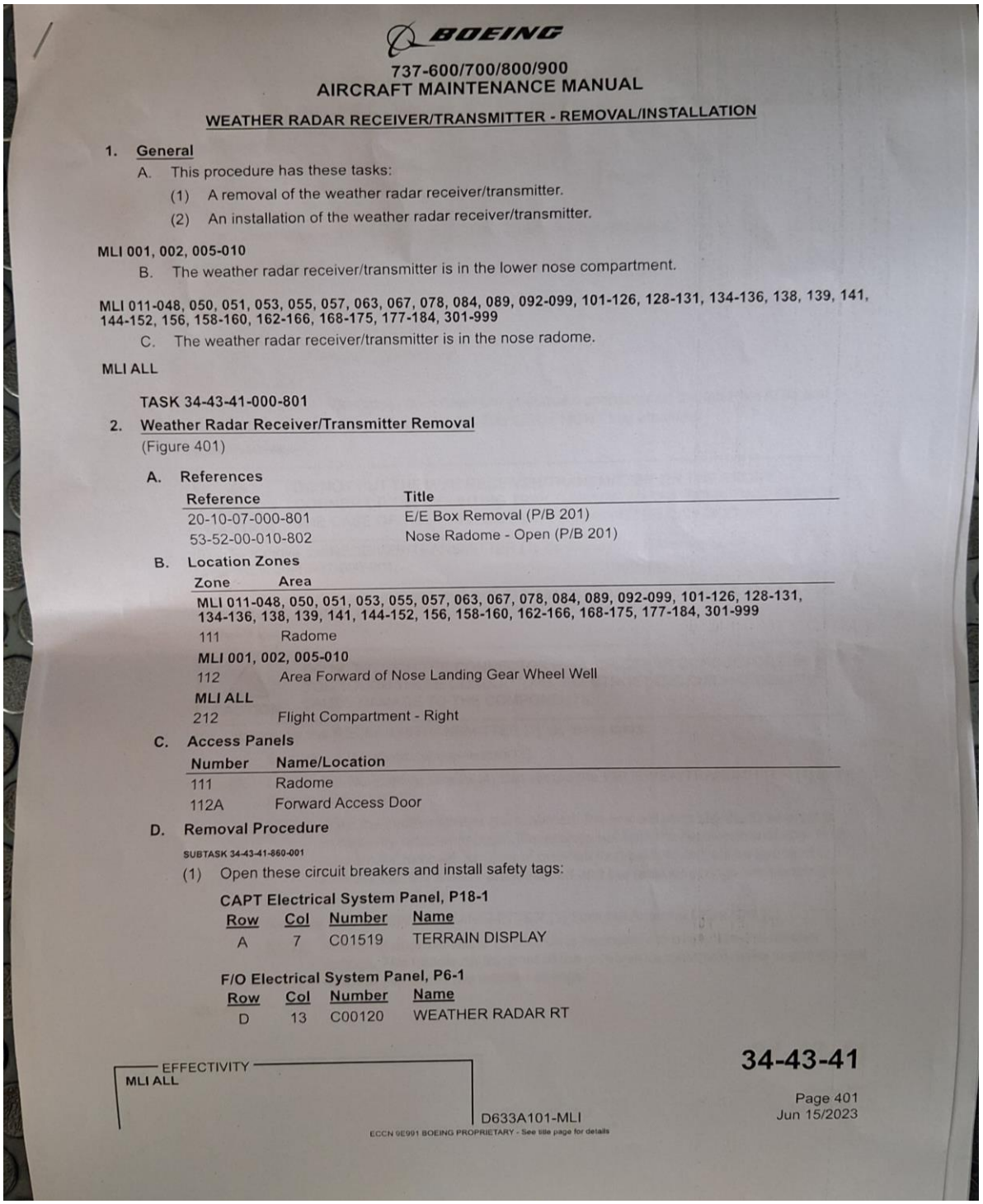
(1) Lower the axle and remove the jacks (TASK 07-11-03-580-801).

SUBTASK 32-45-11-610-002

(2) Make sure that the Landing Gear Tire Pressure is within the servicing limits (TASK 12-15-51-780-801).

——— END OF TASK ———

Lampiran 10. J. AMM Weather Radar Receiver/Transmitter - Removal/Installation



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AIRCRAFT MAINTENANCE MANUAL

WEATHER RADAR RECEIVER/TRANSMITTER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the weather radar receiver/transmitter.

(2) An installation of the weather radar receiver/transmitter.

MLI 001, 002, 005-010

B. The weather radar receiver/transmitter is in the lower nose compartment.

MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

C. The weather radar receiver/transmitter is in the nose radome.

MLI ALL

TASK 34-43-41-000-801

2. Weather Radar Receiver/Transmitter Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
53-52-00-010-802	Nose Radome - Open (P/B 201)

B. Location Zones

Zone	Area
MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999	
111	Radome
MLI 001, 002, 005-010	
112	Area Forward of Nose Landing Gear Wheel Well
MLI ALL	
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
111	Radome
112A	Forward Access Door

D. Removal Procedure

SUBTASK 34-43-41-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	7	C01519	TERRAIN DISPLAY

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

EFFECTIVITY
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34-43-41

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MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

SUBTASK 34-43-41-010-002

(2) Open this access panel:

Number	Name/Location
111	Radome

(a) Do this task: Nose Radome - Open, TASK 53-52-00-010-802.

MLI 001, 002, 005-010

SUBTASK 34-43-41-010-001

(3) Open this access panel:

Number	Name/Location
112A	Forward Access Door

SUBTASK 34-43-41-030-001

(4) If necessary for clearance, disconnect the pneumatic connector on the left Pitot ADM and install a blanking cap with a REMOVE BEFORE FLIGHT flag attached.

SUBTASK 34-43-41-020-001

CAUTION: DO NOT PUT THE WXR RECEIVER/TRANSMITTER ON THE FRONT CORNER OF THE MOUNTING TRAY. DAMAGE TO THE MOUNTING TRAY OR THE CASE OF THE WXR RECEIVER/TRANSMITTER CAN OCCUR.

(5) To remove the RECEIVER/TRANSMITTER [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

SUBTASK 34-43-41-020-002

CAUTION: DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(6) To remove the RECEIVER/TRANSMITTER [1], do these tasks:

(a) Disconnect the electrical connectors [3].

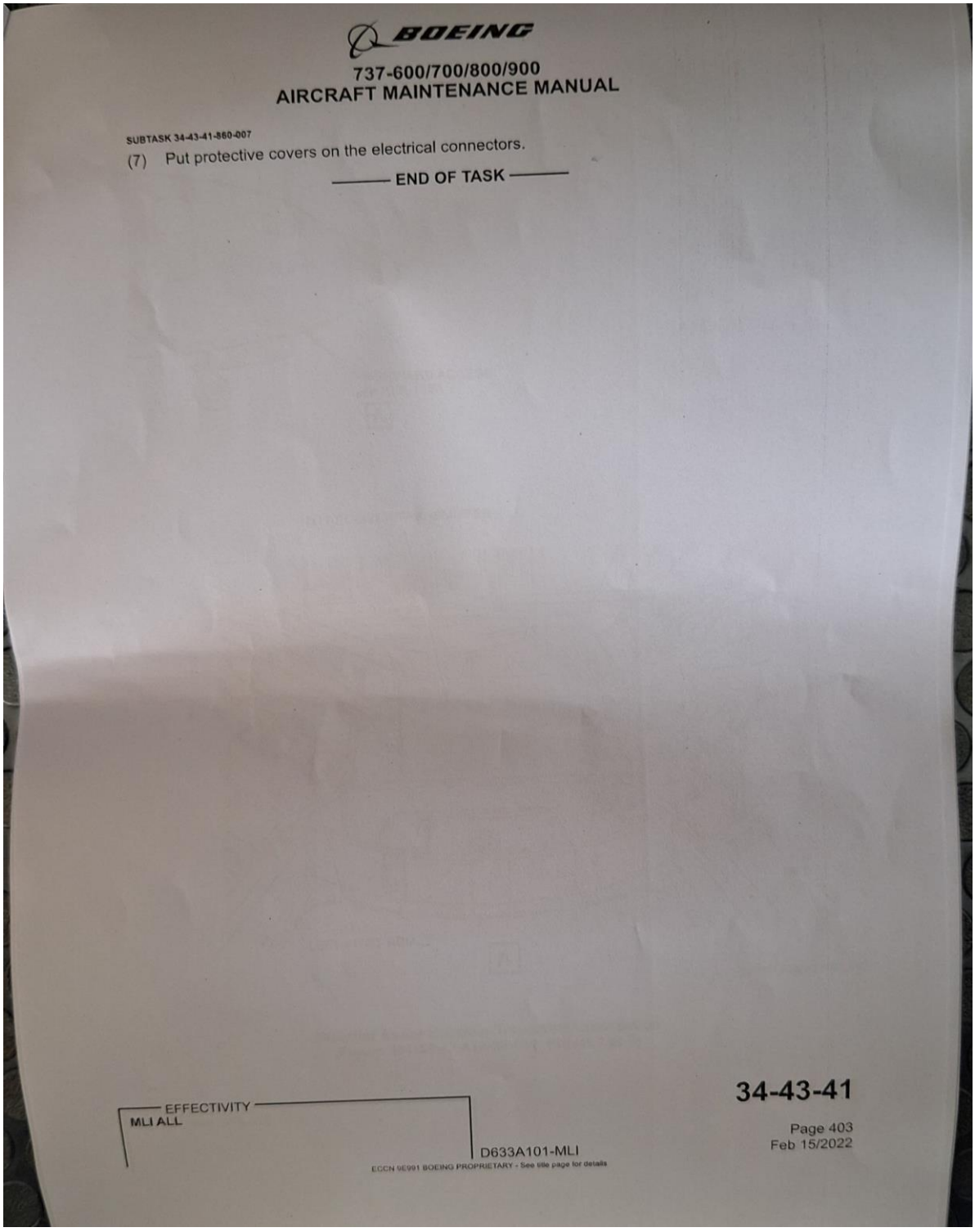
(b) Loosen the two captive screws [4] that secure the RECEIVER/TRANSMITTER [1] to the Antenna Drive Unit [2].

NOTE: After the captive screws are loosened, the unit will drop slightly to where it is secured by retainer springs. The springs will hold the receiver/transmitter in its position for removal. An area of one-half inch painted red will be exposed to indicate that the screws are loosened and the retainer springs are securing the receiver/transmitter.

(c) Remove the RECEIVER/TRANSMITTER [1] from the Antenna Drive Unit [2].

NOTE: A force of approximately 10 pounds is necessary to overcome the retainer springs. The handle on the front of the receiver/transmitter is used to pull the unit down to overcome the retainer springs.

MLI ALL



SUBTASK 34-43-41-860-007

(7) Put protective covers on the electrical connectors.

END OF TASK

TASK 34-43-41-400-801

3. Weather Radar Receiver/Transmitter Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-60-06-100-801	Electronic LRU Cleaning (P/B 201)
34-43-00-710-803-002	Weather Radar (WXR) System - Operational Test (P/B 501)
34-43-00-710-804-003	Weather Radar (WXR) System - Operational Test (P/B 501)
53-52-00-010-802	Nose Radome - Open (P/B 201)
53-52-00-410-802	Nose Radome - Close (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	RECEIVER/TRANSMITTER	34-43-11-09-025	MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999
		34-43-41-05-510	MLI 001, 002, 005-010

C. Location Zones

Zone	Area
MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999	
111	Radome
MLI 001, 002, 005-010	
112	Area Forward of Nose Landing Gear Wheel Well
MLI ALL	
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
111	Radome
112A	Forward Access Door

E. Installation Procedure

SUBTASK 34-43-41-200-001

(1) Do a visual inspection of the weather radar receiver/transmitter mount tray and blower assembly for dust accumulation.

(2) If necessary, do this task to clean the area around the WXR mounting tray: Electronic LRU Cleaning, TASK 20-60-06-100-801

SUBTASK 34-43-41-860-002

(3) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	7	C01519	TERRAIN DISPLAY

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

SUBTASK 34-43-41-860-008

(4) Remove the protective covers from the electrical connectors.

MLI 001, 002, 005-010

SUBTASK 34-43-41-420-001

CAUTION DO NOT PUT THE WXR RECEIVER/TRANSMITTER ON THE FRONT CORNER OF THE MOUNTING TRAY. DAMAGE TO THE MOUNTING TRAY OR THE CASE OF THE WXR RECEIVER/TRANSMITTER CAN OCCUR.

(5) To install the RECEIVER/TRANSMITTER [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 34-43-41-410-002

WARNING MAKE SURE THAT YOU CONNECT THE PITOT CONNECTOR AFTER YOU INSTALL THE PROCESSOR. IF YOU DO NOT CONNECT THE PITOT CONNECTOR BEFORE FLIGHT, YOU WILL CAUSE INCORRECT OR MISSING AIR DATA. INCORRECT OR MISSING AIR DATA CAN MAKE FLIGHT DANGEROUS.

(6) If the pneumatic connector was disconnected, remove the blanking cap with the REMOVE BEFORE FLIGHT flag and connect the pneumatic connector to the left Pitot ADM.

(7) Do a visual inspection of the quick-disconnect fitting for the left Pitot ADM.

(a) Make sure the actuation ring of the quick-disconnect fitting is fully engaged on the lock pins, and that you can see the colored lock ring indicator that shows correct connection of the quick-disconnect fitting.

SUBTASK 34-43-41-410-005

(8) Put the airplane back to its usual condition, do this task:

Close this access panel:

Number	Name/Location
112A	Forward Access Door

MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

SUBTASK 34-43-41-010-003

(9) If closed, open this access panel:

Number	Name/Location
111	Radome

(a) Do this task: Nose Radome - Open, TASK 53-52-00-010-802.

SUBTASK 34-43-41-420-002

CAUTION: DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(10) To install the RECEIVER/TRANSMITTER [1], do these tasks:

(a) Install the RECEIVER/TRANSMITTER [1] into the Antenna Drive Unit [2].

(b) Tighten the captive screws [4] to 30-35 pound-inches (3.4-4.0 newton-meters).

(c) Connect the electrical connectors [3].

SUBTASK 34-43-41-410-004

(11) Put the airplane back to its usual condition, close this access panel:

Number	Name/Location
111	Radome

(a) Do this task: Nose Radome - Close, TASK 53-52-00-410-802.

MLI ALL

F. Installation Test

SUBTASK 34-43-41-860-009

(1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	7	C01519	TERRAIN DISPLAY

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

SUBTASK 34-43-41-470-001

(2) If the software on the WXR processor does not match the software already resident on the new installed receiver/transmitter, wait 10 minutes for the WXR processor to complete a data load with the WXR receiver/transmitter (10 minutes per side for a dual WXR installation if both processors are replaced).

NOTE: Only application software should match between WXR processor and receiver/transmitter after software loading.

MLI ALL

SUBTASK 34-43-41-710-001

(3) Do this task: Weather Radar (WXR) System - Operational Test, TASK 34-43-00-710-803-002 or Weather Radar (WXR) System - Operational Test, TASK 34-43-00-710-804-003.

END OF TASK

Lampiran 11. K. AMM Reheater - Removal/Installation

BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

REHEATER - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) A removal of the reheater
      (2) An installation of the reheater.
   B. The High Pressure Water Separator (HPWS) must be removed first. This makes it possible to remove the reheater.

TASK 21-51-13-000-801

2. Reheater Removal
(Figure 401)

   A. References

Reference	Title
21-51-08-000-802	High Pressure Water Separator Removal (P/B 401)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)

   B. Location Zones

Zone	Area
192	Lower Wing-To-Body Fairing - Under Wing Box

   C. Prepare for the Removal

SUBTASK 21-51-13-860-001
(1) Do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 21-51-13-020-019
(2) Do this task: High Pressure Water Separator Removal, TASK 21-51-08-000-802.
NOTE: The High Pressure Water Separator (HPWS) must be removed first. This makes it possible to remove the reheater.

   D. Reheater Removal

SUBTASK 21-51-13-020-007
(1) Remove the couplings [47] and packings [48] from the water extractors.
   (a) Discard the packings [48].

SUBTASK 21-51-13-020-008
(2) To remove the reheater [49] from the frame assembly [44], do these steps:
   (a) Remove the bolts [43], washers [41], and bushings [42].
   (b) Remove the bolts [50] and washers [41].
   (c) Remove the reheater [49] from the frame assembly [44].

SUBTASK 21-51-13-020-009
(3) Remove the coupling [45].
   (a) Discard the packings [46] on the coupling [45].

SUBTASK 21-51-13-480-002
(4) Put covers on the ducts and lines to keep out unwanted materials.

END OF TASK

EFFECTIVITY
MLI ALL

TASK 21-51-13-400-801

3. Reheater Installation

(Figure 401)

A. References

Reference	Title
21-51-08-400-802	High Pressure Water Separator Installation (P/B 401)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
36-00-00-860-803	Supply Pressure to the Pneumatic System with the APU (P/B 201)
36-00-00-860-804	Supply Pressure to the Pneumatic System with One or Both Engines (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D50104	Grease - Molykote 44 High Temperature Bearing Grease (Medium) (Formerly Dow Corning DC-44)	

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
46	Packing	21-51-13-01-040	MLI 001, 002, 005-010
		21-51-13-04-030	MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-115, 117-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999
48	Packing	21-51-14-01-100	MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-115, 117-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999
		21-51-14-02-110	MLI 001, 002, 005-010
49	Reheater	21-51-13-01-045	MLI 001, 002, 005-010

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
49 (cont.)		21-51-13-04-035	MLI 011-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-115, 117-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

D. Location Zones

Zone	Area
192	Lower Wing-To-Body Fairing - Under Wing Box

E. Reheater Installation

SUBTASK 21-51-13-480-003

(1) Remove the duct and line covers.

SUBTASK 21-51-13-020-010

(2) Install the coupling [45], do these steps:

(a) Apply a thin coat of Molykote 44 grease, medium, D50104, or an equivalent to the new packings [46].

(b) Install the packings [46] on the coupling [45].

(c) Install the coupling [45] in the condenser.

SUBTASK 21-51-13-020-011

(3) Install the reheater [49] on the frame assembly [44], do these steps:

(a) Put the bushings [42] in their positions in the frame assembly [44].

CAUTION DO NOT CAUSE DAMAGE TO THE PACKING AT THE COUPLING DURING REHEATER INSTALLATION. THE DUCT OF THE REHEATER SETS ON THE COUPLING. IF YOU DO NOT OBEY, DAMAGE TO THE PACKING CAN OCCUR AND CAUSE AIR LEAKS.

(b) Put the reheater [49] in its position in the frame assembly [44].

(c) Install the bolts [43] and washers [41].

(d) Install the bolts [50] and washers [41].

SUBTASK 21-51-13-020-012

(4) To install the couplings [47] for the water extractors, do these steps:

(a) Apply a thin coat of Molykote 44 grease, medium, D50104, or equivalent to the new packings [48].

(b) Put the packings [48] in their positions on the ducts.

(c) Install the couplings [47] on the ducts.

(d) Tighten the coupling [47] to 35 in-lb (4.0 N·m) - 40 in-lb (4.5 N·m).

SUBTASK 21-51-13-410-003

(5) Install the High Pressure Water Separator (HPWS) (TASK 21-51-08-400-802).

F. Reheater Installation Test

SUBTASK 21-51-13-860-003

WARNING MAKE SURE THAT PERSONNEL ARE CLEAR OF THE RAM AIR INLET AND EXIT DOORS, LINKAGES AND ACTUATORS BEFORE YOU DO THIS TEST. POSSIBLE INJURY TO PERSONNEL CAN OCCUR.

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 21-51-13-780-001

(2) To prepare for a leak check of the reheater [49] installation, do one of these steps, (a) or (b):

(a) Supply pneumatic pressure to the packs with the Auxiliary Power Unit (APU) as follows:

1) Supply pressure to the pneumatic system with the APU (TASK 36-00-00-860-803).
2) Make sure that the aft outflow valve and a passenger door are open.
3) Set the applicable L PACK or R PACK switch, on the P5-10 air conditioning panel, to the AUTO position.

(b) Supply pneumatic pressure to the packs with an engine as follows:

1) Supply pressure to the pneumatic system with one or both engines (TASK 36-00-00-860-804).
2) Make sure that the aft outflow valve and a passenger door are open.
3) Set the applicable L PACK or R PACK switch, on the P5-10 air conditioning panel, to the AUTO position.

SUBTASK 21-51-13-790-001

(3) Do a soap bubble test of all the applicable duct joints.

NOTE: No leakage is permitted.

(a) If there is leakage, do these steps:

1) Put the L PACK and R PACK switches in the OFF position.

WARNING DO NOT TOUCH THE COOLING PACK DUCTS WHEN THEY ARE HOT. THE COOLING PACK DUCTS CAN BE HOT AND CAN CAUSE INJURY TO PERSONS.

2) Loosen the clamps.
3) Make sure that the ducts are aligned at the joints.
4) Tighten the clamps.
5) Put the L PACK and R PACK switches in the AUTO position.
6) Make sure that the leak has been repaired.

G. Put the Airplane Back to Its Usual Condition

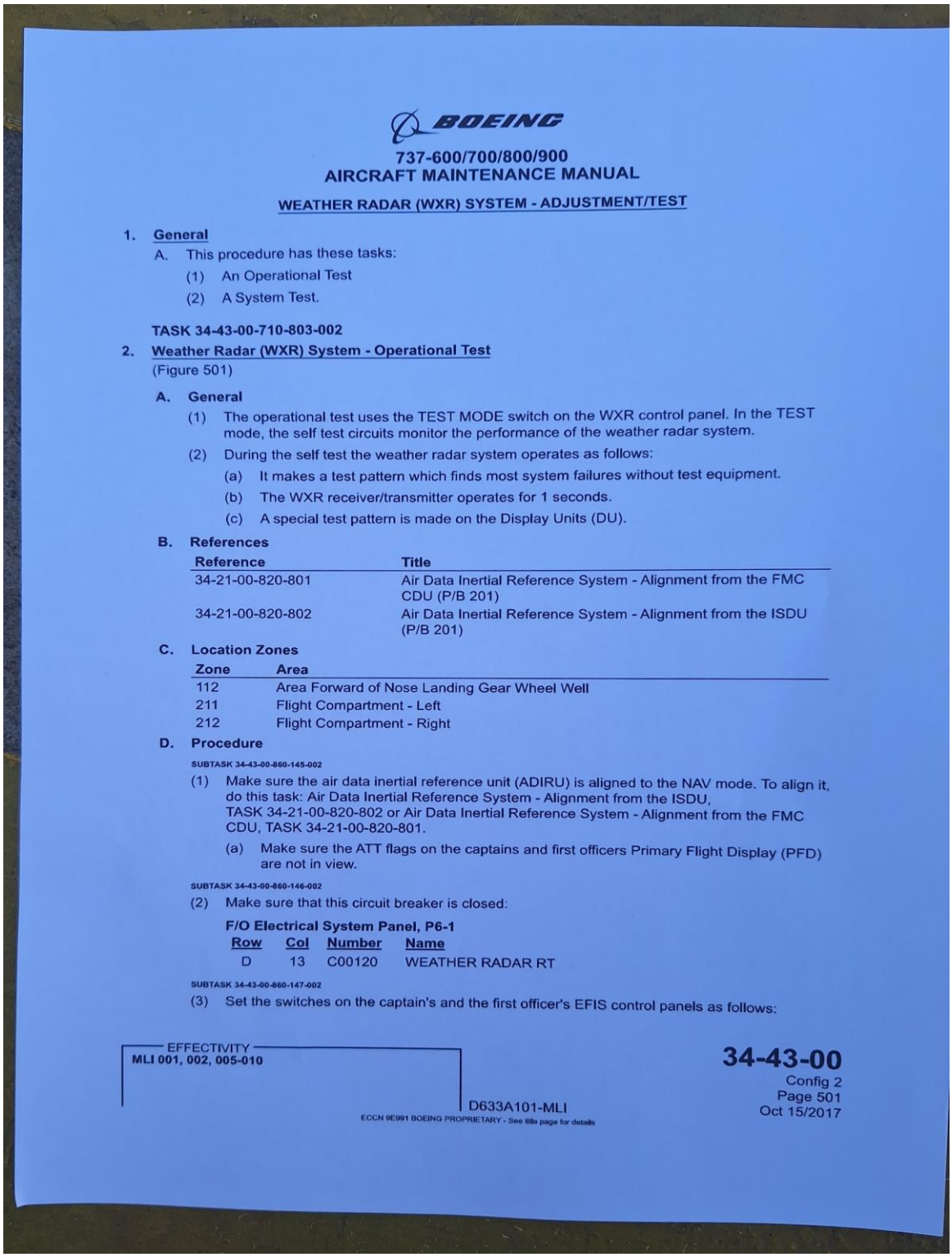
SUBTASK 21-51-13-860-006

(1) Set the L and R PACK switches, on the P5-10 air conditioning panel, to the OFF position.

SUBTASK 21-51-13-860-007

(2) Do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

Lampiran 12. L. *Weather Radar* (WRX) *System – Operational Test*



BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WEATHER RADAR (WXR) SYSTEM - ADJUSTMENT/TEST

1. General
   A. This procedure has these tasks:
      (1) An Operational Test
      (2) A System Test.

TASK 34-43-00-710-803-002

2. Weather Radar (WXR) System - Operational Test
(Figure 501)

A. General
   (1) The operational test uses the TEST MODE switch on the WXR control panel. In the TEST mode, the self test circuits monitor the performance of the weather radar system.
   (2) During the self test the weather radar system operates as follows:
      (a) It makes a test pattern which finds most system failures without test equipment.
      (b) The WXR receiver/transmitter operates for 1 seconds.
      (c) A special test pattern is made on the Display Units (DU).

B. References

Reference	Title
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 34-43-00-860-145-002

(1) Make sure the air data inertial reference unit (ADIRU) is aligned to the NAV mode. To align it, do this task: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.
   (a) Make sure the ATT flags on the captains and first officers Primary Flight Display (PFD) are not in view.

SUBTASK 34-43-00-860-146-002

(2) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

SUBTASK 34-43-00-860-147-002

(3) Set the switches on the captain's and the first officer's EFIS control panels as follows:

EFFECTIVITY
MLI 001, 002, 005-010

D633A101-MLI

ECCN 9E991 BOEING PROPRIETARY - See title page for details

34-43-00
Config 2
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(a) Set the left and right ADF/VOR control to OFF.

(b) Set the mode selector to VOR.

SUBTASK 34-43-00-710-004-002

(4) Select TEST on the WXR control panel.

(a) Set the SOURCE switch on the instrument switching module to the ALL ON 1 (ALL ON 2) position.

WARNING DO NOT OPERATE THE WEATHER RADAR WITHIN 3.3 FEET (1 METER) OF REFUELING OR DE-FUELING OPERATIONS, A FUEL SPILL OR OPEN FUEL CELLS. OPERATION OF THE WEATHER RADAR WITHIN THE 3.3 FEET (1 METER) LIMIT CAN CAUSE A FIRE OR EXPLOSION. A FIRE OR EXPLOSION CAN CAUSE INJURY OR DEATH TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING DO NOT OPERATE THE WEATHER RADAR WHEN PERSONNEL ARE IN THE AREA USUALLY ENCLOSED BY THE AIRCRAFT NOSE RADOME OR IN A HANGAR. THESE CONDITIONS CAN CAUSE INJURY TO PERSONNEL.

(b) Push the WXR switch on the captain's (first officer's) EFIS control panel to the ON position.

NOTE: The hangar restriction DOES NOT apply to the weather radar test mode.

NOTE: The fuel spill or open fuel cell warning DOES apply to the weather radar test mode.

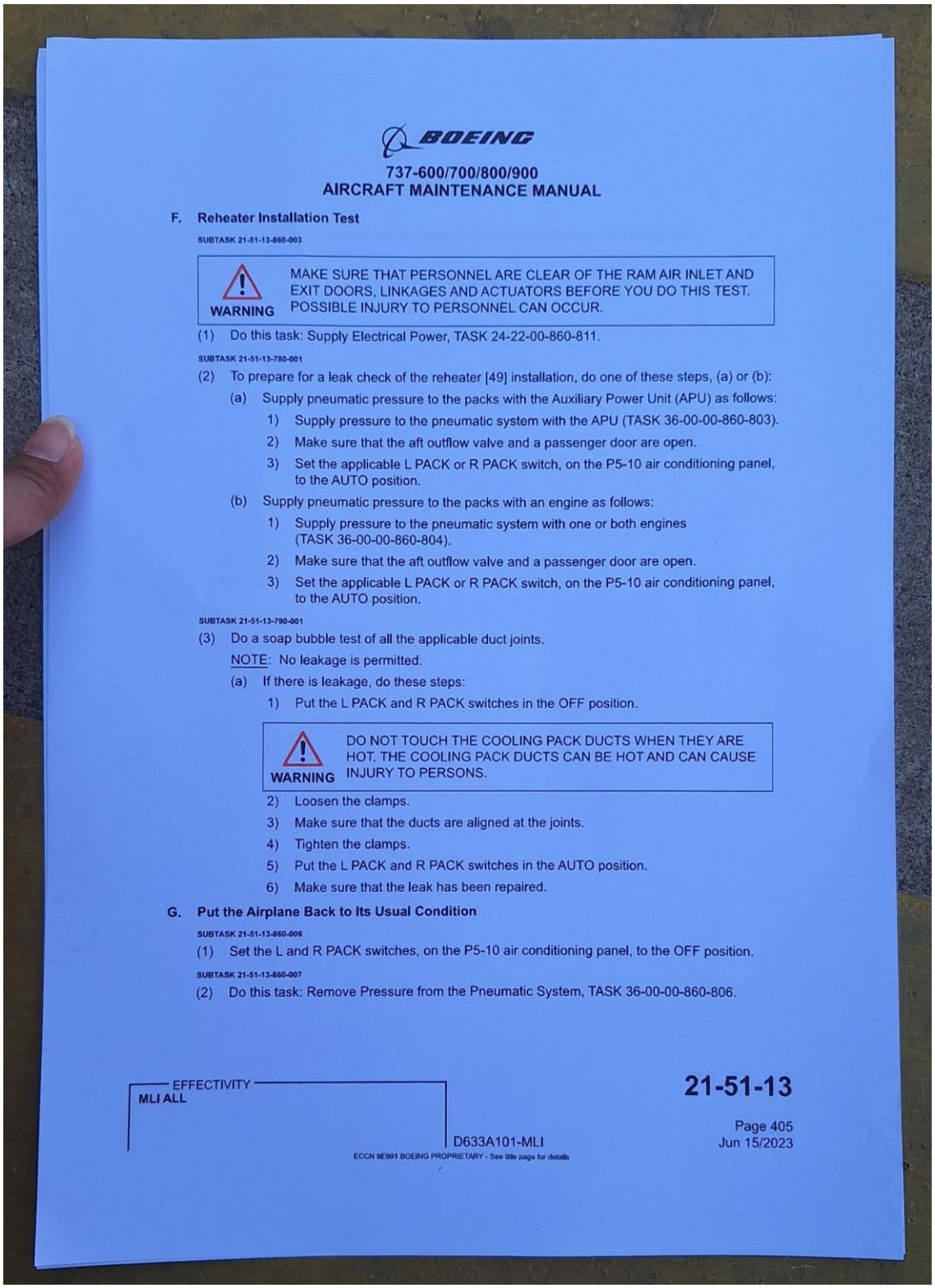
1) After 15 seconds:

a) Make sure WXR TEST display on the captain's and first officer's display unit (DU) is as shown on Figure 501.

2) Set the SOURCE switch on the instrument switching module to the AUTO position.

——— END OF TASK ———

Lampiran 13. M. *Rehater Installation Test*



BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

F. Reheater Installation Test

SUBTASK 21-51-13-860-003

WARNING: MAKE SURE THAT PERSONNEL ARE CLEAR OF THE RAM AIR INLET AND EXIT DOORS, LINKAGES AND ACTUATORS BEFORE YOU DO THIS TEST. POSSIBLE INJURY TO PERSONNEL CAN OCCUR.

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 21-51-13-780-001

(2) To prepare for a leak check of the reheater [49] installation, do one of these steps, (a) or (b):

(a) Supply pneumatic pressure to the packs with the Auxiliary Power Unit (APU) as follows:

1) Supply pressure to the pneumatic system with the APU (TASK 36-00-00-860-803).
2) Make sure that the aft outflow valve and a passenger door are open.
3) Set the applicable L PACK or R PACK switch, on the P5-10 air conditioning panel, to the AUTO position.

(b) Supply pneumatic pressure to the packs with an engine as follows:

1) Supply pressure to the pneumatic system with one or both engines (TASK 36-00-00-860-804).
2) Make sure that the aft outflow valve and a passenger door are open.
3) Set the applicable L PACK or R PACK switch, on the P5-10 air conditioning panel, to the AUTO position.

SUBTASK 21-51-13-790-001

(3) Do a soap bubble test of all the applicable duct joints.

NOTE: No leakage is permitted.

(a) If there is leakage, do these steps:

1) Put the L PACK and R PACK switches in the OFF position.

WARNING: DO NOT TOUCH THE COOLING PACK DUCTS WHEN THEY ARE HOT. THE COOLING PACK DUCTS CAN BE HOT AND CAN CAUSE INJURY TO PERSONS.

2) Loosen the clamps.
3) Make sure that the ducts are aligned at the joints.
4) Tighten the clamps.
5) Put the L PACK and R PACK switches in the AUTO position.
6) Make sure that the leak has been repaired.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 21-51-13-860-006

(1) Set the L and R PACK switches, on the P5-10 air conditioning panel, to the OFF position.

SUBTASK 21-51-13-860-007

(2) Do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

EFFECTIVITY
MLI ALL

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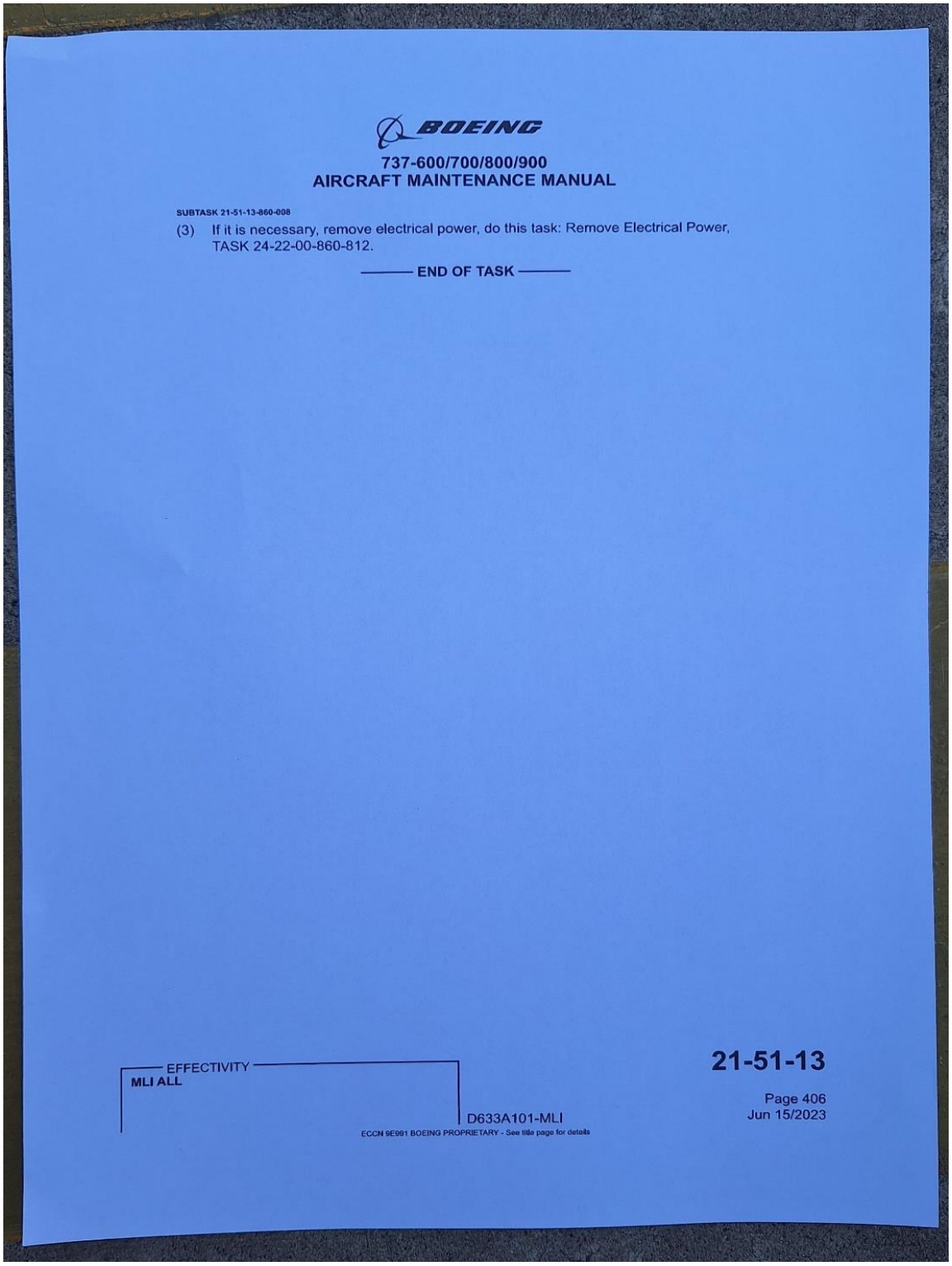
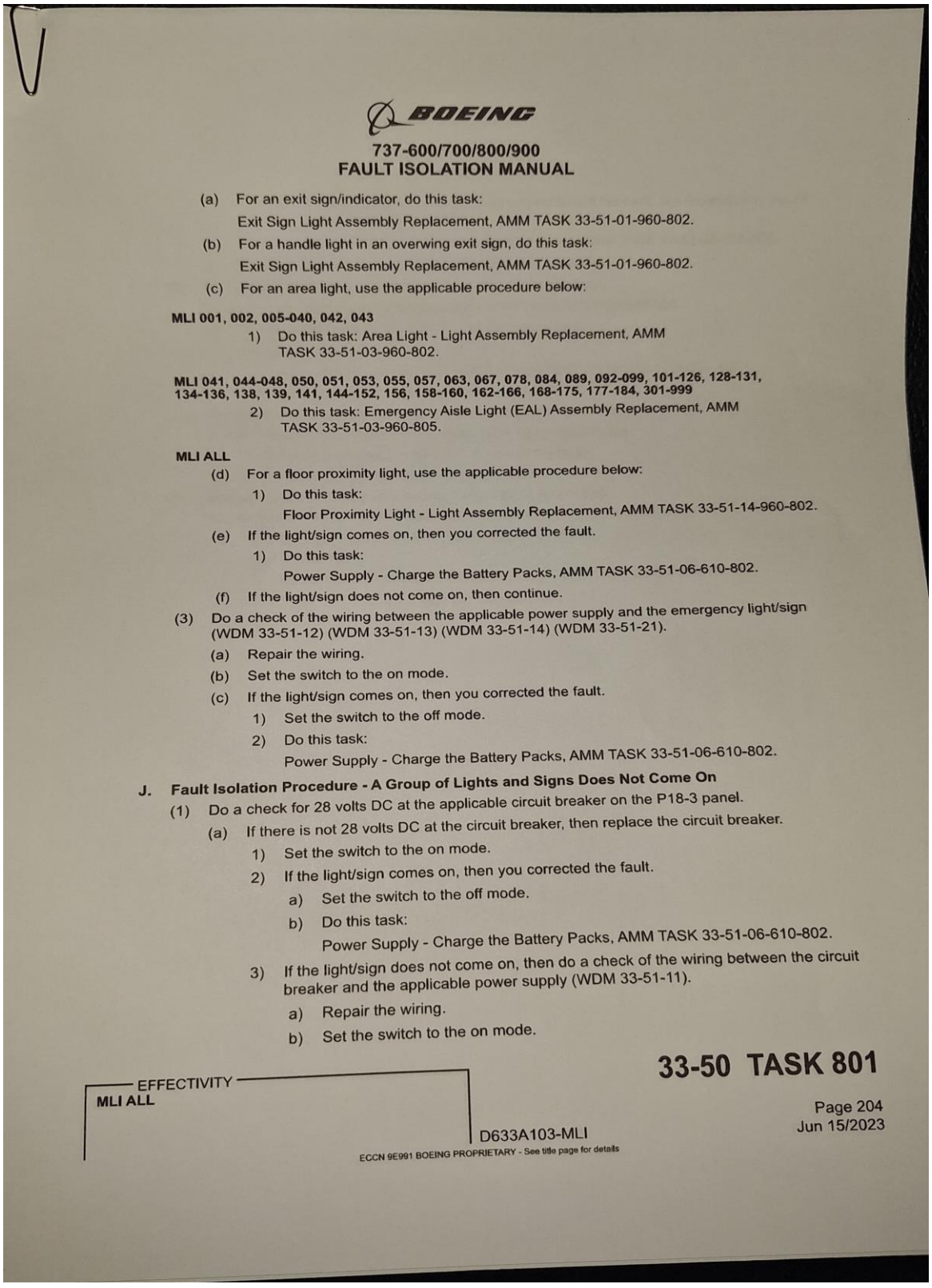


SUBTASK 21-51-13-860-008

(3) If it is necessary, remove electrical power, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

Lampiran 14. N. FIM *Emergenct light*



BOEING

737-600/700/800/900
FAULT ISOLATION MANUAL

(a) For an exit sign/indicator, do this task:
Exit Sign Light Assembly Replacement, AMM TASK 33-51-01-960-802.

(b) For a handle light in an overwing exit sign, do this task:
Exit Sign Light Assembly Replacement, AMM TASK 33-51-01-960-802.

(c) For an area light, use the applicable procedure below:

MLI 001, 002, 005-040, 042, 043

1) Do this task: Area Light - Light Assembly Replacement, AMM TASK 33-51-03-960-802.

MLI 041, 044-048, 050, 051, 053, 055, 057, 063, 067, 078, 084, 089, 092-099, 101-126, 128-131, 134-136, 138, 139, 141, 144-152, 156, 158-160, 162-166, 168-175, 177-184, 301-999

2) Do this task: Emergency Aisle Light (EAL) Assembly Replacement, AMM TASK 33-51-03-960-805.

MLI ALL

(d) For a floor proximity light, use the applicable procedure below:

1) Do this task:
Floor Proximity Light - Light Assembly Replacement, AMM TASK 33-51-14-960-802.

(e) If the light/sign comes on, then you corrected the fault.

1) Do this task:
Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

(f) If the light/sign does not come on, then continue.

(3) Do a check of the wiring between the applicable power supply and the emergency light/sign (WDM 33-51-12) (WDM 33-51-13) (WDM 33-51-14) (WDM 33-51-21).

(a) Repair the wiring.

(b) Set the switch to the on mode.

(c) If the light/sign comes on, then you corrected the fault.

1) Set the switch to the off mode.

2) Do this task:
Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

J. Fault Isolation Procedure - A Group of Lights and Signs Does Not Come On

(1) Do a check for 28 volts DC at the applicable circuit breaker on the P18-3 panel.

(a) If there is not 28 volts DC at the circuit breaker, then replace the circuit breaker.

1) Set the switch to the on mode.

2) If the light/sign comes on, then you corrected the fault.

a) Set the switch to the off mode.

b) Do this task:
Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

3) If the light/sign does not come on, then do a check of the wiring between the circuit breaker and the applicable power supply (WDM 33-51-11).

a) Repair the wiring.

b) Set the switch to the on mode.

EFFECTIVITY
MLI ALL

33-50 TASK 801

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D633A103-MLI

ECCN 9E991 BOEING PROPRIETARY - See title page for details

c) If the light/sign comes on, then you corrected the fault. Set the switch to the off mode, then, do this task:

Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

(b) If there is 28 volts DC at the circuit breaker, then continue.

(2) Replace the applicable battery pack. To replace it, do this task:

Power Supply - Battery Pack Replacement, AMM TASK 33-51-06-960-805.

(a) If the light/sign comes on, then you corrected the fault.

1) Do this task:

Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

(b) If the light/sign does not come on, then continue.

(3) Replace the defective power supply fuse. To replace it, do this task:

Power Supply - Fuse Replacement, AMM TASK 33-51-06-960-804.

(a) If the light/sign comes on, then you corrected the fault.

(b) If the light/sign does not come on, then continue.

(4) Replace the applicable power supply. To replace it, do this task:

Power Supply - Power Supply Replacement, AMM TASK 33-51-06-960-806.

(a) If the light/sign comes on, then you corrected the fault.

1) Do this task:

Power Supply - Charge the Battery Packs, AMM TASK 33-51-06-610-802.

——— END OF TASK ———

Lampiran 15. O. Daily Activity

DAILY ACTIVITY REPORT

NAME : Firja Zahran Rasendriya
N.I.T : 30A21009
COURSE : D3 Teknik Pesawat Udara
Competency : Aircraft System and Structure

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2 April 2024	Speed brake extended light operational check	M-1497
2	3 April 2024	Standby Hydraulic Electric Motor Driven Pump	M-1497
3	4 April 2024	Leading Edge Standby Actuation	M-1497
4	5 April 2024	Operational Check Battery Pack Emergency Light	M-1497
5	6 April 2024	Discard the Chemical oxygen Generators	M-1497
6	10 April 2024	Operationally Check the Speedbrake Handle Stop	M-1497
7	11 April 2024	Leading edge Standby Actuation	M-1497
8	12 April 2024	Automatic Emergency Exit Door Flight Lock Operational Check	M-1497
9	13 April 2024	Standby Hydraulic System Leading Edge Uncommanded Motion	M-1497
10	19 April 2024	Passenger Compartment Floor Structure Dry Area	M-1497
11	28 April 2024	Operational Check The speedbrake Refused Takeoff (RTO) system For short Field	M-1497
12	29 April 2024	Wheel to Rudder Interconnect	M-1497
13	30 April 2024	Left Wing Leading Edge Flap and Slat Actuators and Actuation Mechanism	M-1497
14	1 Mei 2024	Cargo Fire Extinguishing Timer	M-1497
15	2 Mei 2024	Cargo Fire Extinguishing ARM / Discharge Switches	M-1497
16	7 Mei 2024	Remove Seat Passengers	M-1497
17	8 Mei 2024	Remove Seat Passengers	M-1497
18	9 Mei 2024	Inspection Corrosion Seat Passengers	M-1497
19	10 Mei 2024	Fuselage Skin at lower Bulkhead Chords Body Station Inspection	M-1497

DAILY ACTIVITY REPORT

NAME : Firja Zahran Rasendriya
N.I.T : 30921009
COURSE : D3 Teknik Pesawat Udara
Competency : Aircraft System and Structure

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
20	11 Mei 2024	Service and protection External surfaces wing (Coating)	M-1497
21	12 Mei 2024	Service and protection Fuel System and Tanks	M-1497
22	17 Mei 2024	Please Install Windshield Assy Pilot	M-1497
23	18 Mei 2024	Found at R/H window No.2 Bad Condition	M-1497
24	19 Mei 2024	Install Panel Actuator L/H Wing	M-1497
25	20 Mei 2024	Install Cabin Side Wall	M-1497
26	21 Mei 2024	Install Lamp PN FOS9CWBCAC QTY 2 EA For complete	M-1497
27	25 Mei 2024	Please Install Plenum Assy Ram Air Exhaust For Completion	M-1497
28	26 Mei 2024	Please Install light assy For completion	M-1497
29	27 Mei 2024	Install Battery Pack Emergency Light	M-1497
30	28 Mei 2024	Install Exchanger Assy Heat Series 2 and 3 For Completion	M-1497
31	29 Mei 2024	Please Instal Temp Bulb sensor	M-1497
32	30 Mei 2024	Flushing Pitot Static	M-1497
33	4 Juni 2024	Conditioned Air Check Valve Installation	M-1497
34	5 Juni 2024	Cleaning Seat Passenger using Polishing Cleaner	M-1497
35	6 Juni 2024	Weather Radar Receiver / Transmitter Installation	M-1497
36	9 Juni 2024	Stall warning System operational check	M-1497
37	10 Juni 2024	Main Landing gear and Tire Assembly Installation	M-1497
38	15 Juni 2024	Operationally Check Each Flight Crew oXygen mask	M-1497

DAILY ACTIVITY REPORT

NAME : Firza Zahran Rasendriya
N.I.T : 30921000
COURSE : D3 Teknik pesawat udara
Competency : Aircraft System and Structure

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
39	16 Juni 2024	Crew Oxygen System operational Leak Check	M-1497
90	17 Juni 2024	Crew oxygen Pressure Indicator Fault Isolation	M-1497
91	18 Juni 2024	Oxygen Mask / Regulator Removal	M-1497
92	22 Juni 2024	Prolonged service and protection	M-1497
93	23 Juni 2024	Prolonged service and protection	M-1497
95	29 Juni 2024	Prolonged service and protection	M-1497

DAILY ACTIVITY REPORT

NAME : Firja Zahran Rasendriya
N.I.T : 30921009
COURSE : D3 Teknik Pesawat Udara
Competency : Electrical

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	20 April 2024	To Perform Instalation of Portable IFE Power Supply on 737 Max 9M-LRR	M-1497
2	21 April 2024	To Perform Installation of Portable IFE Power Supply on 737 Max 9M-LRR	M-1497
3	22 April 2024	To Perform Installation of Portable IFE Power Supply on 737 Max 9M-LRR	M-1497
4	23 April 2024	To perfom Installation of Portable IFE Power supply on 737 Max 9M-LRR	M-1497
5	29 April 2024	To perform Installation of Portable IFE Power Supply on 737 Max 9M-LRR	M-1497
6	3 Mei 2024	Emergency Battery Pack Functional Check	M-1497
7	16 Mei 2024	Emergency lighting Battery Pack Restoration	M-1497

DAILY ACTIVITY REPORT

NAME : Firja Zahran Rasendriya
N.I.T : 30921009
COURSE : D3 Teknik Pesawat Udara
Competency : Engine

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	15 April 2024	Right Engine "Reverser" Iight Indication System Operational Check	M-1497
2	19 April 2024	Left Engine "Reverser" Iight Indication System Operational Check	M-1497

DAILY ACTIVITY REPORT

NAME : Firja Zahran Rasandriya
N.I.T : 30921009
COURSE : D3 Teknik Pesawat Udara
Competency : Instrument

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	3 Juni 2024	Pitot Static System leak test R/H and L/H using Air Data Tester	M-1497
2	11 Juni 2024	Air Traffic Control (ATC) system - Adjustment / test	M-1497
3	12 Juni 2024	Functionally check the pressure Altimetry system Air Data Module	M-1497

Lampiran 16. P. Sertifikat On The Job training PT. Batam Aero Technic

Batam Aero Technic

"Certificate of Completion"

No. : 00143/BAT-HRDEV/OJT/JUN/2024

This is to certify:

FIRJA ZAHRAN RASENDRIYA

30421009

For successfully complete the Internship:

BATAM AERO TECHNIC

Division: BASE MAINTENANCE - BTH

Conducted from 01 April 2024 to 28 June 2024

Batam, 28th June 2024

HRD & GA General Manager

Untjok Mangara T. S.