LAPORAN *ON THE JOB TRAINING* PT. BATAM AERO TECHNIC (BAT)
DIVISI *BASE MAINTENANCE* BATAM

Disusun Oleh:

ZAENURI IHSAN WIYONO

NIT. 30420024

PROGRAM STUDI DIPLOMA 3 TEKNIK PESAWAT UDARA

POLITEKNIK PENERBANGAN SURABAYA

2024

LAPORAN ON THE JOB TRAINING (OJT) PT. BATAM AERO TECHNIC DIVISI BASE MAINTENANCE BATAM

Tanggal 01 April – 30 Juni 2024

Disusun Oleh:

ZAENURI IHSAN WIYONO

NIT. 30421024

PROGRAM STUDI DIPLOMA 3 TEKNIK PESAWAT UDARA

POLITEKNIK PENERBANGAN SURABAYA

2024

LEMBAR PERSETUJUAN

Oleh:

ZAENURI IHSAN WIYONO

NIT.30421024

Laporan *On the Job Training* telah diterima dan disahkan sebagai salah satu syarat penilaian *On the Job Training*

Disetujui Oleh:

Pembimbing OJT	Dosen Pembimbing
RIZALDI IBNU FADHIL	Dr. Ir. SETYO HARIYADI, S.P., S.T., M.T.
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MANAGER HANGAR E

BATAM AERO TECHNIC

BASE MAINTENANCE BATAM

AGUS YUSUP

ID.83119525

LEMBAR PENGESAHAN

LAPORAN *ON THE JOB TRAINING*

PT. BATAM AERO TECHNIC

Laporan *On the Job Training* telah dilakukan pengujian di depan Tim Penguji pada tanggal 14 Agustus 2024 dan dinyatakan memenuhi syarat sebagai salah satu komponen penilaian *On the Job Training*

Tim Penguji:

1. Ketua : Dr. GUNAWAN SAKTI, S.T., M.T. ……
2. Sekretaris : BAMBANG BAGUS H, S.SIT., M.M., M.T. ……
3. Anggota : Dr. Ir. SETYO HARIYADI, S.P., S.T., M.T. ……

Ketua Program Studi

Teknik Pesawat Udara

NYARIS PAMBUDIYATNO, S.SiT, M.MTr

NIP. 19820525 200502 1001

KATA PENGANTAR

Puji syukur kita panjatkan kepada Allah SWT, yang telah memberikan Ridho, Rahmat dan Hidayah-Nya, sehingga penulis dapat melaksanakan Praktek Kerja Lapangan (*On the Job Training*) di *BATAM AERO TACHNIC* yang dilaksanakan mulai tanggal 04 April 2022 sampai dengan 27 Mei 2022 dan dapat menyelesaikan laporan *On the Job Training*.

Laporan Praktek Kerja Lapangan (*On the Job Training*) ini merupakan salah satu syarat yang harus dipenuhi setelah melaksanakan Praktek Kerja Lapangan (*On the Job Training*) maksud dari pembuatan laporan ini adalah sebagai menambah pengetahuan dalam menuntut ilmu serta keterampilan yang telah saya dapatkan selama pelaksanaan *On the Job Training* (OJT). Selain itu juga menambah wawasan dan pengetahuan untuk para pembaca, sehingga apa saja yang telah saya dapatkan berguna bagi saya, pembimbing dan pembaca.

Pada kesempatan kali ini saya mengucapkan terima kasih kepada pihak yang telah mendukung dalam terlaksananya *On the Job Training* (OJT) terselesaikannya laporan ini, diantaranya:

1. Bapak Ahmad Bahrawi, S.E., M.T. selaku Direktur Politeknik Penerbangan Surabaya.
2. Bapak Nyaris Pambudiyatno, S.SiT, M.MTr, selaku Kepala Program Studi Teknik Pesawat Udara di Politeknik Penerbangan Surabaya.
3. Bapak Dr. Ir. Setyo Hariyadi S. P,. ST, MT selaku dosen pembimbing laporan *On the Job Training (OJT).*
4. Bapak Agus Yusup selaku Manager Hangar E di *BATAM AERO TECHNIC*
5. Angga Septiana selaku *Chief* line 14 Hanggar E di *BATAM AERO TECHNIC*
6. Bapak Rizaldi Ibnu Fadhil selaku *Group Leader* Grup A line 14 Hanggar E di *BATAM AERO TECHNIC* yang senantiasa membimbing dan membantu dalam penyusunan laporan *On the Job Training (OJT)*
7. Seluruh *enginer* dan *mechanic* di *Unit Base Maintenance BATAM AERO TECHNIC.*

8. Kepada Ibu dan Bapak, serta saudara yang telah memberikan doa, kasih sayang, dukungan moril dan material serta dorongan semangat kepada saya.
9. Seluruh rekan *On the Job Training (OJT)* di *BATAM AERO TECHNIC*.

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

Batam, 26 Juni 2024

Zaenuri Ihsan Wiyono

NIT. 30421024

DAFTAR ISI

POLITEKNIK PENERBANGAN SURABAYA
SUJANMA AKASA MANDALA

DAFTAR GAMBAR

DAFTAR LAMPIRAN

POLITEKNIK PENERBANGAN SURABAYA
SUJANMA AKASA MANDALA

BAB 1
PENDAHULUAN

1.1 Latar Belakang

On the Job Training (OJT) adalah salah satu bentuk dari penerapan ilmu yang diperoleh dari proses pembelajaran di Politeknik Penerbangan Surabaya. Kegiatan OJT untuk Taruna/i Teknik Penerbangan, khususnya Program Diploma 3 Teknik Pesawat Udara angkatan 7, dilaksanakan sesuai dengan kurikulum dan silabus yang disusun berdasarkan kalender akademik Politeknik Penerbangan Surabaya.

Para taruna/i yang mengikuti OJT diberikan kesempatan langsung untuk menerapkan pengetahuan dan keterampilan yang diperoleh berupa teori dan praktik di Politeknik Penerbangan Surabaya dalam lingkungan kerja yang sesungguhnya. Pemenuhan materi yang selama ini dilaksanakan di Politeknik Penerbangan Surabaya perlu didukung oleh kegiatan yang dapat memperluas wawasan taruna/i, yang dituntut untuk segera menerapkan ilmunya di dunia kerja. Hal ini menunjukkan betapa pentingnya ilmu dan praktik yang terkait langsung dengan bidang pekerjaannya. Oleh karena itu, *On the Job Training* (OJT) dianggap perlu untuk menambah wawasan dalam menerapkan ilmu yang telah diajarkan di kampus.

1.2 Maksud dan Tujuan Pelaksanaan OJT

Adapun maksud dalam pelaksanaan OJT di Politeknik Penerbangan Surabaya adalah sebagai berikut :

1. Mempelajari langsung aktifitas di lapangan pekerjaan sesuai dengan ilmu teori maupun praktek yang didapat selama melaksanakan pembelajaran di kampus.
2. Mempersiapkan diri dalam menghadapi lingkungan kerja sebenarnya setelah menyelesaikan studinya.
3. Membangun hubungan kerja sama yang baik antara kampus Politeknik Penerbangan Surabaya dengan perusahaan atau lembaga instansi lainnya.

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

1. Menciptakan lulusan yanng memiliki daya saing tinggi di lingkup nasional dan internasional serta sertifikat kompetensi sesuai standar nasional dan internasional.
2. Memahami budaya kerja dalam industri penerbangan dan membangun pengalaman nyata memasuki dunia industri penerbangan.
3. Membentuk kemampuan dalam berkomunikasi pada materi keilmuan secara lisan maupun tulisan dalam lingkungan kerja sebenarnya.

BAB 2
PROFIL LOKASI OJT

2.1 Sejarah Singkat

PT. Batam Aero Technic adalah salah satu perusahaan swasta yang bergerak di bidang jasa transportasi udara, termasuk perawatan pesawat terbang. Dalam industri penerbangan nasional, nama Rusdi Kirana sangat dikenal. Melalui Lion Air, ia mempelopori konsep penerbangan berbiaya rendah (*low cost carrier*) yang memungkinkan banyak orang menikmati transportasi udara dengan biaya terjangkau. Tidak banyak yang tahu bahwa ini adalah impian Rusdi sejak menjadi calo tiket pesawat beberapa dekade lalu.

Gambar 2.1 Hangar Batam Aero Technic

PT Batam Aero Technic (BAT) adalah anak perusahaan dari Lion Air Group yang bergerak dalam bidang *Maintenance, Repair*, dan *Overhaul* (MRO) pesawat terbang. Didirikan pada tahun 2014, BAT merupakan entitas bisnis global yang kompeten dalam perawatan, pemeliharaan, dan perbaikan pesawat udara. Fasilitas ini bertujuan untuk merawat dan memperbaiki pesawat yang dioperasikan oleh perusahaan penerbangan yang tergabung dalam Lion Air Group, termasuk Lion Air, Wings Air, Batik Air, Lion Bizjet, Malindo Air, Thai Lion Air, dan Angkasa Aviation Academy (sekolah pilot). BAT memiliki kemampuan dalam merawat berbagai tipe pesawat, termasuk Airbus 320, Boeing 737 series, Airbus A330, Hawker 800/900 XP, dan ATR 72 500/600.

Dalam operasionalnya, BAT mematuhi peraturan dan standar yang ditetapkan oleh *Civil Aviation Safety Regulations* (CASR) part 145 menetapkan aturan pelaksanaan untuk organisasi pemeliharaan yang disetujui sebagaimana sudah dipersyaratkan oleh pasal 51 undang-undang penerbangan nomor 1 tahun 2009. Sertifikat CASR part 145 pada Gambar 2.2 memastikan bahwa setiap prosedur dan layanan yang diberikan oleh BAT memenuhi standar keselamatan dan kualitas yang diakui secara internasional. BAT juga telah memperoleh berbagai sertifikasi lainnya, termasuk dari otoritas penerbangan sipil internasional, yang memungkinkan mereka melayani pesawat dari berbagai negara.

REPUBLIC OF INDONESIA
MINISTRY OF TRANSPORTATION
DIRECTORATE GENERAL OF CIVIL AVIATION

Certificate of Approval

Number : 145D – 914

This certificate is issued to : PT. BATAM TEKNIK
DBA. BATAM AERO TECHNIC

Whose business address is : Kawasan Bandar Udara Hang Nadim,
Batu Besar, Nongsa, Batam, Kepulauan Riau
INDONESIA

[illegible]ding that this organization complies in all respects with the requirements of the Civil [illegible]ation. Safety Regulations relating to the establishment of an approved organization, and [illegible]owe[illegible] to operate as an :

APPROVED MAINTENANCE ORGANIZATION

With the f[illegible]lowing ratings : - Limited Airframes;
- Limited Powerplants;
- Limited Propellers;
- Limited Radio Equipment;
- Limited Accessories;
- Limited Landing Gear Components;
- Limited Non Destructive Testing and Processing;
- Limited Emergency Equipment;
- Limited Specialized Process.

This approval is not tra[illegible]bl[illegible] and shall continue until expired, unless cancelled, suspended or revoked by the Dir[illegible]Ge[illegible]ral; and any major change in the basic facilities, or in the location thereof, shall i[illegible]iat[illegible] be reported to the Director General.

Jakarta, [illegible] April 2022

DIRECTOR GENERAL OF CIVIL AVIATION

Expiry Date :
22 April 2027

NOVIE RIYANTO R.

DGCA Form No. 145-02 (Oct 2017)

Gambar 2.2 *Certificate of Approval Maintenance Organization*
(Sumber : Penulis)

Dengan kehadirannya, Batam Aero Technic berkontribusi signifikan terhadap pengembangan industri penerbangan di Indonesia, serta menciptakan lapangan kerja bagi tenaga kerja lokal dengan keahlian khusus di bidang aviasi.

2.2 Fasilitas

Batam Aero Technic, sering dikenal sebagai BAT, melakukan kegiatan perawatan pesawat di dalam hanggar. Terdapat enam hanggar yang digunakan untuk proses perawatan, yaitu hanggar A, B, C, D, E, dan G dapat dilihat pada Gambar 2.3. PT. Batam Aero Technic adalah perusahaan swasta yang telah memenuhi persyaratan minimal standar untuk berdirinya sebuah perusahaan perawatan, sesuai dengan peraturan dalam CASR (*Civil Aviation Safety Regulation*) pada bagian 145.103 yang mengatur tentang persyaratan fasilitas dan tempat. Hal ini dibuktikan dengan kelengkapan fasilitas yang diatur dalam CASR bagian 145.103, dimana setiap hanggar dilengkapi dengan ruangan untuk menyimpan peralatan dan material. Selain itu, ada juga fasilitas tambahan yang mendukung proses perawatan pesawat, seperti kotak peralatan (*toolbox*), tangga, lemari bahan mudah terbakar (*flammable cabinets*), pencahayaan, pengendalian suhu, dan tempat penyimpanan (*store*).

Gambar 2.3 *Layout* Batam Aero Technic
(Sumber : Batam Aero Technic Proprietory Information)

2.3 Struktur Organisasi Perusahaan

Seperti halnya suatu organisasi pada umumnya, maka PT. Batam Aero Technic juga memiliki suatu pembagian tugas dan tanggung jawab, dimana masingmasing bagian memiliki kewajiban dalam mengelola dan mengerjakan kegiatan masing-masing untuk memperoleh suatu daya guna yang tinggi, kesemuanya itu tidak dapat terlepas dari sitem manajemen.

Gambar 2.4 Struktur Organisasi Batam Aero Technic

Struktur organisasi di Batam Aero Technic (BAT) pada Gambar 2.4 disusun sesuai dengan persyaratan yang diatur CASR 121.59 terkait *Management Personnel Required*, dimana dalam *safety management system* (SMS) untuk mengelola keselamatan, termasuk struktur organisasi, akuntabilitas, kebijakan, dan prosedur yang diperlukan, maka perusahaan ini memiliki *accountable manager* sebagai *accountable excecutive* yang memiliki tanggung jawab penuh atas *safety management system* (SMS) organisasi dan memiliki wewenang penuh terkait sumber daya manusia, masalah keuangan utama, bertanggung jawab langsung atas pelaksanaan urusan organisasi, dan tanggung jawab akhir untuk keseluruhan masalah keselamatan.. Struktur ini dirancang untuk memastikan bahwa semua kegiatan perawatan dan perbaikan pesawat dilakukan dengan aman, efisien, dan sesuai dengan standar internasional. Berikut adalah gambaran umum struktur organisasi BAT :

1. *Accountable Manager*

Memiliki tanggung jawab utama atas kepatuhan BAT terhadap semua persyaratan peraturan yang relevan. Accountable Manager juga memastikan bahwa organisasi memiliki sumber daya yang memadai, termasuk tenaga kerja, peralatan, dan fasilitas, untuk melaksanakan kegiatan perawatan sesuai dengan standar keselamatan.

2. *Head of Quality*

Bertanggung jawab untuk memastikan bahwa sistem kualitas di BAT mematuhi persyaratan. *Head of Quality* juga bertanggung jawab untuk melakukan audit internal, pemantauan kepatuhan, dan memastikan bahwa semua prosedur dan dokumentasi terkait perawatan pesawat sesuai dengan standar yang berlaku

3. *Head of Safety*

Tugasnya adalah memimpin program keselamatan di BAT. Head of Safety bertanggung jawab untuk mengidentifikasi risiko potensial dan mengembangkan strategi untuk meminimalkan risiko tersebut.

4. *Head of Engineer*

Mengawasi semua kegiatan yang dilakuakan oleh engineer dan perawatan pesawat yang dilakukan di BAT. *Head of Engineer* bertanggung jawab untuk memastikan bahwa semua pekerjaan perawatan dilakukan sesuai dengan prosedur yang telah ditetapkan dan sesuai dengan manual perawatan.

5. *Head of Base Maintenance*

Mengelola kegiatan perawatan yang dilakukan di hanggar utama (*base maintenance*). Ini mencakup perawatan besar, modifikasi, dan *overhaul* yang memerlukan waktu dan fasilitas khusus.

6. *Head of Tools and Material Management*

Mengelola gudang dan persediaan suku cadang. *Head of Tools* and *Material Management* bertanggung jawab untuk memastikan bahwa semua suku cadang yang digunakan dalam perawatan memenuhi standar kualitas dan dilacak dengan benar.

7. *Head of Maintenance Shop*

Bertanggung jawab atas manajemen operasional sehari-hari dari *Maintenance Shop*, yang merupakan fasilitas khusus untuk perbaikan dan *overhaul* komponen pesawat, seperti mesin, avionik, hidrolik, dan komponen struktural lainnya.

8. *Head of BM Facility Area*

Mengelola dan mengawasi seluruh kegiatan perawatan yang dilakukan di fasilitas *Base Maintenance*, yang merupakan tempat dilakukannya perawatan berat (*heavy maintenance*) dan overhaul pesawat secara menyeluruh.

9. *Head of TRAX Mgmt & Flight Data Support*

Mengelola aspek teknis yang berkaitan dengan data perawatan pesawat, termasuk analisis teknis, modifikasi pesawat, dan pengembangan prosedur perawatan.

10. Head of HRD

Bertanggung jawab atas pelatihan teknisi dan personel lainnya untuk memastikan mereka memiliki kualifikasi dan keterampilan yang diperlukan untuk menjalankan tugas mereka sesuai dengan standar.

Struktur organisasi yang disusun ini memungkinkan Batam Aero Technic untuk menjalankan operasionalnya dengan efisien dan sesuai dengan standar keselamatan penerbangan. Setiap peran dan tanggung jawab didefinisikan dengan jelas untuk memastikan kualitas dan kepatuhan dalam setiap aspek operasional MRO.

2.4 Budaya Perusahaan

Kegiatan On the Job Training yang dilakukan oleh PT. Batam Aero Technic di bagian *Base Maintenance* dibagi menjadi beberapa unit kerja, dan setiap unit dipecah lagi menjadi dua kelompok shift kerja yaitu shift pagi dan shift siang. Shift pagi berlangsung dari pukul 08.00 WIB sampai 17.00 WIB, sedangkan shift siang berlangsung dari pukul 16.00 WIB sampai 01.00 WIB. Namun, kelompok shift pagi tidak selalu bekerja pada shift pagi dan kelompok shift siang tidak selalu bekerja pada shift siang, karena setiap minggu kelompok shift pagi bergantian dengan shift siang. Sistem kerja shift di perusahaan ini adalah 6 hari kerja dan 3 hari libur

Di perusahaan ini, hubungan antar karyawan selalu harmonis, menciptakan suasana kerja yang komunikatif, kontributif, kooperatif, dan koordinatif. Hubungan baik ini tercipta karena adanya sikap saling menghormati profesi masing-masing tanpa memandang tinggi rendahnya status pekerjaan. Karyawan wajib mematuhi tata tertib setiap kali masuk kerja, yaitu sebagai berikut:

a. Mengisi absensi (sidik jari/ kartu hadir) pada waktu masuk dan pulang bekerja.
b. Memakai tanda pengenal (ID *Card*) yang dipasang dibagian dada sebelah kanan atau digantung dan terlihat jelas.
c. Memakai pakaian seragam dinas sesuai ketentuan yang berlaku.
d. Mentaati waktu masuk kerja, waktu istirahat dan waktu pulang bekerja sesuai yang diberlakukan.

Memberitahu atau meminta izin kepada atasan bila ingin meninggalkan tempat kersa selama jam kerja masih berlaku.

BAB 3
TINJAUAN TEORI

3.1 Teori Penunjang

Boeing adalah perusahaan produsen pesawat terbesar didunia yang berpusat di Chicago dan dipimpin oleh Presiden dan CEO Dennis Muilenburg. Jenis pesawat yang diproduksi oleh boeing antara lain Boeing 737, 747, 767, 777, dan 787. Boeing 737 masih dibagi menjadi beberapa sub tipe yaitu tipe Original (737100 dan 737-200), Classic (737-300, 737-400, dan 737-500), Next Generation (737-600, 737-700, 737-800, dan 737-900), dan tipe terakhir yaitu 737 MAX (737 MAX 7, 737 MAX 8, 737 MAX 9).

3.1.1 Boeing 737-800

Boeing 737-800 merupakan sebuah pesawat terbang jet sipil komersial bermesin ganda (twinjet) yang diproduksi oleh Pabrik Boeing di Seattle, Amerika Serikat. Awalnya pesawat ini merupakan pengembangan versi murah dari Boeing 707 dan 727. Boeing 737 adalah produk yang paling laris dipasar penerbangan dunia dengan penjualan lebih dari 15,533 unit hingga bulan Maret 2019 dengan pesanan yang belum terkirim mencapai 4703 unit pada bulan Maret 2019. Boeing 737 adalah pesaing utama dari pesawat berlorong tunggal keluaran Airbus yaitu A320. Adapun spesifikasi Boeing 737-800 dapat dilihat pada Tabel 3.1.

Tabel 3.1 Spesifikasi Boeing 737-800

Bentang Sayap	35.8 m
Panjang	39.5 m
Tinggi	12.5 m
Kecepatan Jelajah	842 km/h
Maks. Jangkauan	5,765 km
Maks. Penumpang	189
Berat Kosong	41,413 kg
Kapasitas Bahan Bakar	26,020 L

Gambar 3.1 Pesawat Boeing 737-800 PK-BGJ

3.2 Jadwal Perawatan Pesawat

Pemerintah sebagai regulator, telah mengatur seputar keamanan dan keselamatan penerbangan melalui PP Nomor 3/2001. Pesawat harus mempunyai sertifikat perusahaan perawatan pesawat udara, yakni tanda bukti terpenuhinya standar dan prosedur dalam perawatan pesawat, mesin pesawat, baling-baling pesawat, dan komponen-komponen lain oleh suatu perusahaan perawatan. Untuk perawatan rutin, interval yang sudah ditetapkan harus diulang dalam interval waktu tersebut. Sementara itu, perawatan nonrutin akan dilakukan berdasarkan temuan yang didapat saat pengoperasian pesawat.

Contoh perawatan interval dan penamaan perawatan, misalnya pada pesawat A330 yang dioperasikan oleh PT LION MENTARI AIRLINES yang perawatannya :

- *Equalized Check/ Light Check* melalui Phase 1 hingga phase 48. Interval yang disarankan adalah 1000 (*Flight Hour*) atau 6 (*Month*) mana yang lebih dulu memenuhi *Maintenance Program.*
- *C-Check/ Base maintenance Check* C1 sampai C6. Interval yang disarankan adalah 12.000 (*Flight Hour*) atau 24 (*Month*) mana yang lebih dulu memenuhi *Maintenance Program.*

- *Note : A-Phased Check* dan *C-Check* terintegrasi dalam *Maintenance Program Supplement* (MPS) Manual No. LA-DE-02-01.

Batam Aero Technic menggunakan konsep MSG-2 (*Maintenance Steering Group*) untuk melakukan maintenance pada pesawat-pesawatnya. Konsep MSG-2 ini diterapkan pada pesawat dengan jenis B737, Airbus 320, Airbus 330, dll. MSG-2 ini dikenal dengan istilah 'process oriented' karena untuk suatu komponen berdasarkan tipe maintenance yang berupa proses nya saja seperti *HardTime (HT), On Condition (OC), Condition Monitoring (CM).*

Batam Aero Technic juga mengunakan Konsep MSG-3, konsep MSG-3 lebih dikenal dengan '*taskoriented*' dimana bentuk *maintenance* nya langsung berdasarkan tipe pekerjaannya seperti *servicing, lubrication, cleaning, replace*, dsb. Pada MSG-3 konsep seperti HT, CM, OC sudah tidak digunakan lagi. Pada perawatan umumnya yang berdasarkan MSG-3 Semua taskcard diberikan interval *berdasarkan Flight Hour (FH), Flight Cycle (FC), atau waktu kalender (DY = Day, MO = Month, YR = Year).* Jumlah taskcard di MSG-3 lebih sedikit daripada MSG-2 memudahkan sehingga maskapai penerbangan dalam melakukan perawatan pesawat, persyaratannya lebih namun rumit dibandingkan MSG-2/letter check.

Proses MSG-3 mendefinisikan tiga jenis teknik inspeksi struktural, yakni: *General Visual Inspection, Detailed Inspection & Special Detailed Inspection* yang akan dijelaskan di bawah ini :

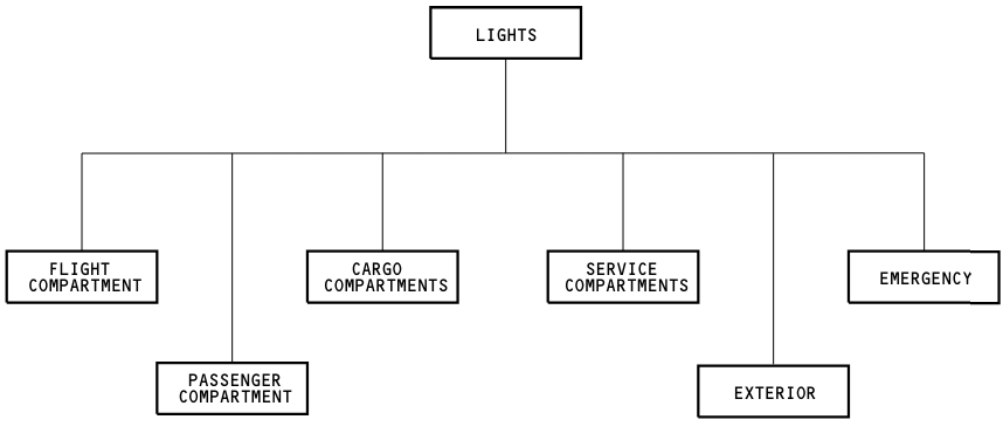
1. *General Visual Inspection*: Pemeriksaan visual yang akan mendeteksi kondisi atau kecacatan atau kekurangan lainnya yang dapat dilihat secara jelas. Jenis pemeriksaan ini mungkin memerlukan pelepasan atau pembukaan akses panel. Dudukan dan tangga kerja mungkin diperlukan untuk memfasilitasi akses ke beberapa komponen.
2. *Detailed Inspection*: Inspeksi visual yang intensif dari detail tertentu, perakitan, atau instalasi. Ini adalah pencarian bukti kerusakan menggunakan pencahayaan yang memadai dan bila perlu, alat bantu inspeksi seperti cermin, lensa tangan, dll. Pembersihan permukaan dan prosedur lainnya juga mungkin diperlukan.
3. *Special Detailed Inspection*: Pemeriksaan intensif dari lokasi tertentu. Ini mirip dengan *detailed inspection* tetapi dengan penambahan teknik khusus.

Pemeriksaan ini mungkin memerlukan teknik seperti *nondestructive inspection (NDIs): dye penetrant, high-powered magnification, magnetic particle, eddy current,* dan lain-lain. Inspeksi rinci khusus juga mungkin perlu melepas komponen atau *part* tertentu.

3.3 *Lighting system*

Sistem lampu pada pesawat terbang mempunyai peranan penting dalam operasi penerbangan, sekaligus sebagai penerangan dan komunikasi baik dengan stasiun bumi maupun dengan pesawat lain. Secara garis besar lighting system pada pesawat dibagi menjadi 3 bagian, yaitu:

- *Flight compartment lights*
- *Passenger compartment lights*
- *Cargo compartment lights*
- *Service compartment lights*
- *Exterior lights*
- *Emergency lights*



Gambar 3.2 Bagan Pembagian Lampu

3.3.1 *Interior Lighting*

Interior lights adalah semua penerangan yang ada dalam pesawat terbang. Penerangan ini digunakan untuk keperluan penumpang dan crew pesawat terbang pada saat di udara, untuk menerangi kabin pada saat adanya perbaikan dan sebagainya. Daya yang digunakan pada saat di ground berasal dari ground power unit yang menyediakan sumber listrik tegangan 115V AC, 400 Hz.

Interior Light dapat di klasifikasikan menjadi tiga bagian, yaitu :

a. *Flight Compartment Light* Digunakan untuk penerangan kontrol-kontrol dan instrument–instrument yang ada di dalam ruangan kemudi pesawat terbang (cockpit).

b. *Passenger Compartment Light* Digunakan untuk *cabin light* dan *passenger information signs.*

3.3.1.1 Passenger Compartment Lighting.

Passenger cabin lighting adalah untuk menyuplai kebutuhan pencahayaan/ penerangan untuk kenyamanan dan tanda informasidari penumpang, jadi memaksimalkan pelayan (pramugari/stewardess) melaksanakan tugasnya.

Lampu pada *passenger compartment* mensuplai fungsi berikut:

- *General light in the passenger cabin*
- *Reading lights*
- *Information lights for the passengers and attendants*
- *Lights in the lavatories*
- *Lights in the galleys.*

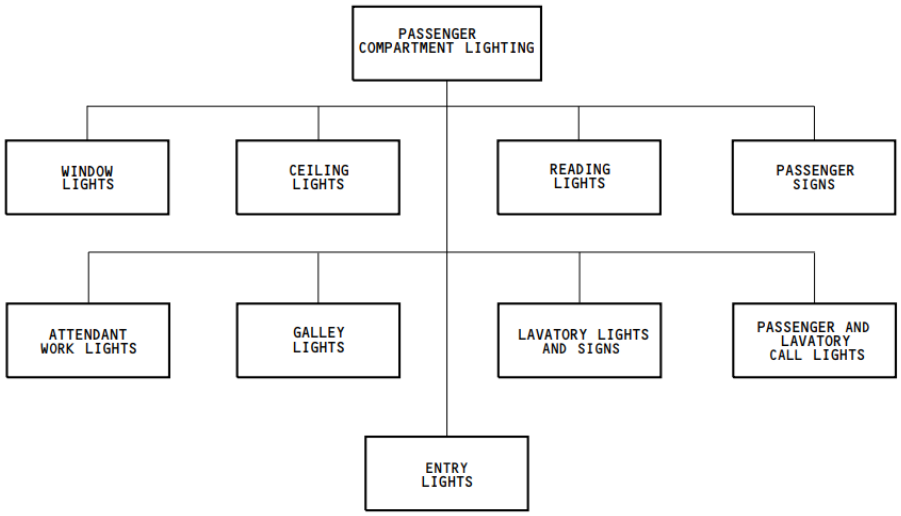
Passenger compartment lights memiliki subsistem yaitu sebagai berikut:

- *Window lights*
- *Ceiling lights*
- *Reading lights*
- *Passenger signs*
- *Lavatory lights and signs*
- *Passenger and lavatory call lights*

• *Attendant work lights*

• *Galley lights*

• *Entry lights.*



Gambar 3.3 Bagan Pembagian Lampu

Pada instalasinya terdapat system sistem berhubungan langsung dengan penumpang, yang dipergunakan untuk kenyamanan dan beberapa lampu dapat dinyalakan sendiri oleh penumpang. Passenger cabin illumination yaitu :

3.3.2 *EXTERIOR LIGHTING*

Exterior lights adalah semua lampu yang ada pada bagian luar pesawat terbang yang bertujuan sebagai pemenuhan kebutuhan penerangan untuk identifikasi pesawat terbang dan sebagai pembantu pilot pada saat pesawat terbang mendarat. Exterior Lighting mempunyai peranan penting, terutama pada malam hari, diantaranya , diantaranya :

-Untuk mempermudah penglihatan terhadap adanya pesawat yang sedang mengudara.

-Sebagai penerangan badan pesawat terbang.

-Mencengah terjadinya tabrakan.

-Mempermudah penglihatan saat adanya icing pada sayap pesawat dan tempat lain sering terjadinya ice.

- Dapat juga sebagai komunikasi external.

Exterior lighting terdiri dari :

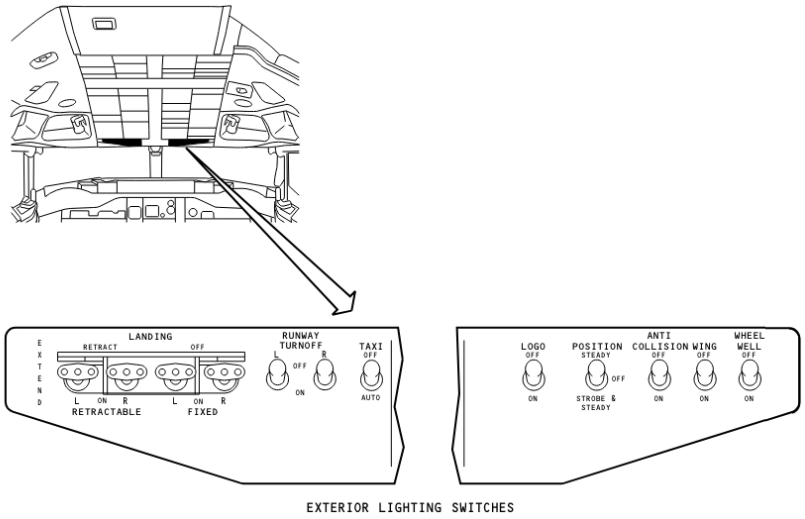
a) *Wing illumunation lights.*
b) *Landing lights* terdiri dari:

1.) *Inboard Landing Lights*

2.) Outboard Landing Lights

c) *Runway Trun off Lights*
d) *Nose Gear Taxi Light*
e) *Steady position lights.*
f) *Anticolition lights.*
g) *Strobe position lights*

Sakelar control untuk semua lampu ini terletak pada bawah dari panel atas kepala (P5) daya untuk semua lampu ini melalui panel P-18 circuit breaker pusat control beban. Semua lampu ini adalah lampu pijar.



Gambar 3.4 *Exterior Lighting Control Switch*

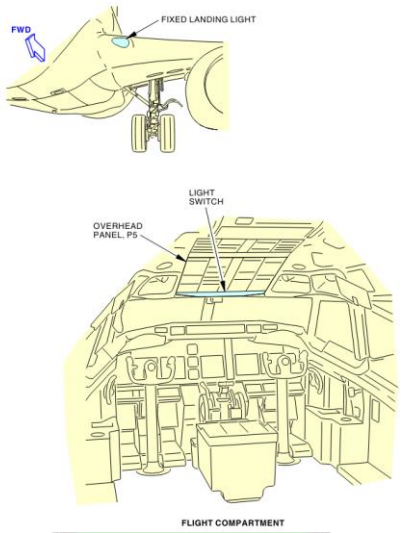
Landing lights adalah lampu yang di gunakan untuk mengatur penerangan pesawat pesawat pada saat mendarat mendarat dan dikontrol dikontrol oleh sakelar sakelar yang ada pada ujung bawah panel diatas kepala (P-5).

Landing Lights ini terbagi menjadi 2 terbagi menjadi 2 yaitu : yaitu :

1) Inboard Landing Lights
2) Outboard Landing Lights

3.3.2.1 Inboard Landing Lights

Lampu ini ada dua, yaitu pada sayap sebelah kanan dan kiri pesawat yang terletak pada leading edge sayap dekat dengan badan pesawat. Lampu bercahaya kearah depan dan kebawah kebawah groundehead groundehead dalam posisi tetap, dengan lebar pancaran berkas kira-kira 11 derajat. Lampu ini adalah tipe lampu itensitas tinggi dan pemasangan lampu tidak dirancang untuk bekerja terus – menerus jika masih di udara. Daya/tegangan untuk lampu dari panel P18 circuit breaker sebsar 115 V AC dan diperkecil oleh trafo sebesar dan diperkecil oleh trafo sebesar 28 V AC.



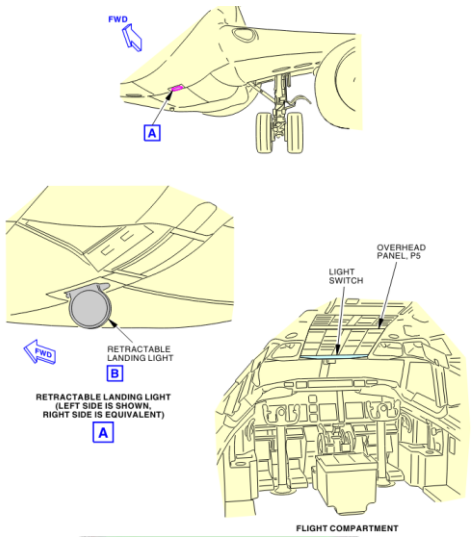
Gambar 3.5 Lokasi *Fixed Landing Light*

3.3.2.2 Outboard Landing lights.

`Lampu pendaratan bagian luar ada 2, yaitu pada sayap sebelah kanan dan kiri pesawat yang pesawat yang terletak di terletak di dalam outboard flap track fairing. lampu bercahaya ke arah depan kira-kira 15 derajat sejajar dengan garis air dari posisi flap, Lampu dapat diperpanjang dan ditarik kembali sesuai dengan pengontrolannya, dan lampu ontrolannya, dan lampu di control di control oleh sakelar 3 posisi yang terletak pada panel diatas kepala (P-5), yaitu : extend, on, retract

a *EXTEND* : lampu akan diturunkan diturunkan atau diperpanjang diperpanjang
b *ON* : lampu dapat menyala menyala ketika dalam posisi extend.
c *RECTRACT RECTRACT* : lampu akan ditarik ditarik kembali kembali dan tidak akan bercahaya bercahaya ketika dalam posisi full rectract.

Daya/tegangan untuk lampu dari Daya/tegangan untuk lampu dari panel P18 circuit panel P18 circuit breaker sebsar breaker sebsar 115 V AC 115 V AC dan diperkecil oleh trafo sebesar 28 V DC.



Gambar 3.6 *Retractable Landing Light*

3.4 Static Discharge

3.4.1 Deskripsi Umum

Static discharge adalah salah satu komponen elektronik di pesawat terbang yang terletak diujung paling luar atau trailing edge pada sayap pesawat maupun ekor pesawat terbang. *Static discharge* adalah alat penetralisir listrik statis maupun sambaran petir pada pesawat terbang sehingga pesawat terbang akan baik-baik saja jika terjadi timbulnya listrik statis maupun saat terkena sambaran petir, karena listrik statis maupun sambaran petir akan dilepaskan kembali ke udara melalui *static discharge*.

3.4.2 Fungsi dan Cara Kerja

Static discharge digunakan untuk meneruskan aliran petir yang mengenai pesawat terbang akan dialirkan lagi ke udara, dan juga bisa digunakan untuk menetralisir listrik statis yang ada di pesawat terbang akibat adanya gesekan sayap pesawat dengan awan yang menimbulkan listrik statis pada pesawat terbang, karena petir maupun listrik statis ini bisa mengganggu kerja komponen listrik, komunikasi dan navigasi pesawat terbang, bahkan bisa merusak komponen listrik, komponen komunikasi dan komponen navigasi yang ada pada pesawat terbang.

3.4.3 Karakteristik

Komponen utama yang ada di dalam *static discharger* terdiri dari 3 bagian utama, antara lain:

1. *Discharger* merupakan komponen yang berfungsi melepaskan muatan elektrik statis yang ada di pesawat ke udara;
2. *Discharger base* berfungsi sebagai tempat menempelnya *discharger*

Adapter plate merupakan penyesuaian untuk menempelkan *discharger base* ke bagian pesawat di mana *static discharger* terpasang.

Static discharger pada pesawat berupa kawat atau lempengan plastik berisi batang logam dengan ujung yang runcing dan ditempatkan diujung-ujung wing atau tail pesawat dan menghadap kebelakang. Batang logam terbuat dari bahan *resistive* (konduktor) yang mempunyai nilai hambatan rendah dan menepel pada *discharger base* yang terletak dan terikat di badan pesawat.

Static discharger dirancang memiliki ujung yang runcing dikarenakan muatan listrik memiliki sifat mudah terkumpul dan lepas pada ujung logam yang runcing sehingga dapat dengan mudah dibuang ke udara.

Setiap sisi *wing* memiliki 2 *discharger trailing edge. Vertical stabilizer tip* memiliki 2 *discharger* dan 2 *discharger* pada *trailing edge*. Setiap sisi *horizontal stabilizer tip* memiliki *discharger* dan 2 *discharger* pada *trailing edge*. Total jumlah pada satu pesawat ada 14 *static discharge.*

3.4.4 Listrik Statis

Listrik statis adalah suatu kondisi yang disebabkan oleh perpindahan muatan listrik proton maupun elektron karena adanya perbedaan potensial pada badan pesawat. Muatan listrik elektron akan berpindah dari tempat yang muatan elektronnya tinggi ke tempat yang muatan elektronnya rendah. Perpindahan muatan itu terjadi karena adanya gaya gesek antara dua benda yang bermuatan. Contoh cara membangkitkan listrik statis dalam kehidupan kita sehari-hari ialah dengan menggosokkan penggaris plastik dengan kain wool, kaca dengan kain sutra, dll.

3.4.5 *Maintenance Static Discharge*

Untuk mengetahui baik buruknya *static discharge*, jika static discharge tersbut waktu diuji resistannya tidak kurang dan lebih dari 6-100 megaohm, maka

dinyatakan baik. Jika lebih atau kurang dari range tersebut, maka *static discharge* tersebut harus dilakukan pergantian meskipun fisik masih bagus. Semua *static discharge* mempunyai nilai resistansi yang berbeda beda tetapi yg baik itu dalam range 6-100 megaohm.

BAB 4
HASIL PELAKSANAAN OJT

Kegiatan *On the Job Training* yang dilaksanakan PT. BATAM AERO TECHNIC pada Base Maintenance dikelompokkan menjadi unit-unit kerja dan pada tiap-tiap unit dipecah lagi menjadi dua kelompok shift kerja yaitu shift pagi dan shift siang. Shift pagi bekerja mulai pukul 08.00 WIB sampai 17.00 WIB. Shift siang bekerja mulai pukul 17.00 WIB sampai 01.00 WIB. Kelompok shift pagi tidak selamanya bekerja pada shift pagi dan shift siang tidak selamanya bekerja pada shift siang, karena tiap satu minggu yang shift pagi bergantian dengan shift siang. Kegiatan *On the Job Training* tersebut dilakukan pada waktu dan tempat berikut ini. Untuk sistem kerja *shift* di perusahaan yaitu 6 hari kerja dan 3 hari libur.

4.1 Lingkup Pelaksanaan OJT

OJT ini dilaksanakan selama 2 bulan, terhitung mulai tanggal 1 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 E *BATAM AERO TECHNIC*.

4.2 Jadwal Pelaksanaan OJT

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

Peserta : Taruna Diploma III Teknik Pesawat Udara Angkatan VII A Politeknik Penerbangan Surabaya.

Jumlah : 18 Taruna

Shift : Pagi (08.00-17.00) dan Sore (16.00-01.00)

4.3 Permasalahan

Pada saat melaksanakan on the job training di Batam Aero Technic, *mechanic* mengerjakan perawatan interval C Check 4 pada pesawat B737-800ER PK-BGJ. Pada Perawatan interval C Check 4 ini, *mechanic* melakukan beberapa Inspeksi dan menemukan permasalahan, yaitu landing light does not retractable, replacement static discharge, replacement integrated flight display, replacement window light assembly, integrated drive generator oil change.

4.4 Penyelesaian Permasalahan

4.4.1 Landing Light Does Not Retractable

Pada pesawat B737-800 dengan registrasi PK-BGJ, melakukan schedule maintenance yang memasuki waktu C-Check 04 dan menemukan bahwa *Landing light doesn't retract*. Diterbitkannya *taskcard landing light doesn't retract* dilakukan dengan tujuan untuk mengganti *Light assembly* yang rusak pada pesawat B737-800 dengan nomor registrasi PK-BGJ. Dengan referensi *FIM (Fault Isolation Manual)* Lampiran 1-4 *33-40 TASK 801*.

Inspection

Inspection C-*Check* dilakukan sesuai dengan *Maintenance Manual* B737-800. Dilakukan inspeksi pada area *under fuselage* guna mengetahui permasalahan pada area tersebut Berikut adalah dokumentasi yang dilakukan Ketika melakukan inspeksi pada area *fuselage*. Setelah dilakukan *inspection* telah ditemukan beberapa masalah yang serius yaitu pada *motor* ditemukan rusak.

Gambar 4.1 *Landing Light*

4.4.2 *Identification*

Pada pesawat PK-BGJ, dilakukan schedule maintenance sudah memasuki masa waktu C-*Check 04* harus dilakukan general *inspection* pada area *under fuselage*, dan ditemukan bahwa *landing light* dengan *part number 46-2788-1* rusak sehingga selanjutnya akan dilakukan pergantian. *Landing light* memiliki kerusakan yang serius yaitu light assembly pada motor yang tidak dapat beroperasi secara normal.

MAINTENANCE DEFECT & RECTIFICATION REPORT

MDRR NO. 129397
W/O NO. 1534741

AC TYPE B737-800 | A/C REG PE-BGJ | SSN A1796 | STATION BPN-BTH | WORK AREA WING | ISSUED DATE 26-MAY-2021
ATA REFERENCE 33 | TYPE OF INSPECTION / CHECK DEREGISTRATION | TASK CARD NO. SURVEILLANCE

DISCREPANCY: FOUND RETRACTABLE LANDING LIGHT CANNOT RETRACT

ISSUED BY: NAME ARJU | SIGN & STAMP

NO	RECTIFICATION	ACCOMPLISHMENT MANHOURS	PERFORMED BY	DATE

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	MOTOR ASSY	46-2788-1	1 AGY		
2	LIGHT ASSY-LANDING	A5-0351-6	1 AGY		

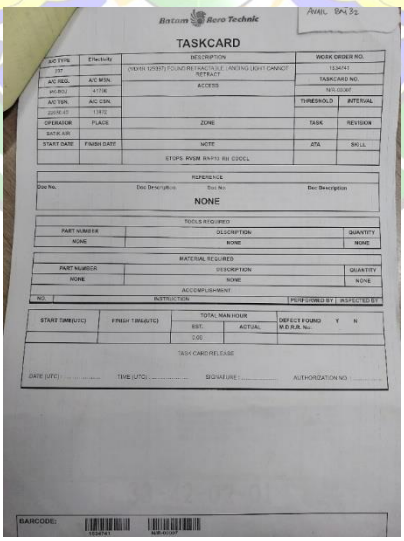
Distribution Copies : White-Attached to the work package, Blue-Customer, Red-Production Dept, Yellow - Quality Control
The article identified herein was inspected/repaired/tested in accordance with the current approved or accepted data as referred and is consider approved to return to service.

Gambar 4.2 *Landing Light MDRR*

4.4.2.1 Removing

Kegiatan *Removing* dilakukan dengan melepas *Light Assembly-Landing* yang terdapat pada area *fuselage.* Saat proses *removal*, mechanic berpedoman pada taskcard dengan nomor N/R-00007. Sebelum *landing light assembly* dilepas, mechanic harus terlebih dahulu membaca AMM. pada gambar merupakan taskcard *Landing Light cannot retract* dengan nomor *taskcard* N/R-00007

Gambar 4.3 Proses Pembongkaran *Light Assembly*



Batam Bero Technic

TASKCARD

NONE

Gambar 4.4 *Landing Light Taskcard*

4.4.2.2 Installing

Pada tahap *Install mechanic* akan melakukan *remove light assy-landing* yang lama dan *install* baru dengan *part number* yang sama yaitu 45-0351-6 pada

pesawat sesuai dengan AMM 33-42-02. *Install* komponen ini dilakukan sesuai dengan prosedur yang ada pada *aircraft maintenance manual*.

Task card diatas adalah sebagai dokumen beserta bukti bahwa terjadi kerusakan system pada landing light. Langkah selanjutnya untuk menyelesaikan masalah dari *Landing light: does not retract - right retractable* yang terjadi pada pesawat Boeing 737-800 NG PK-BGJ. Menurut *Fault Isolation Manual* terdapat possible cause : *Use the applicable System Schematic Manual (SSM) or Wiring Diagram Manual (WDM) in the table below to identify possible causes for the lighting problem.* Setelah dilakukan pengecekan berdasarkan referensi *Fault Isolation Manual* 33-40 TASKS 801 bahwa Landing light: does not retract - right retractable disebabkan oleh *motor assy can't operate.*

4.4.2.3 Return to Service

Setelah *serviceable engineer* akan melakukan *close taskcard* sesuai permasalahan yang ada lalu menanda tangan dan stamp pada taskcard tersebut. Setelah pekerjaan selesai *taskcard* ditulis pada *resume book laporan* sesuai *taskcard* yang dikerjakan dan direview oleh *chief line* masing-masing setiap harinya.

4.4.3 Static Discharge Broken

Pada saat inspeksi terhadap keseluruhan pesawat *Boeing 737-900ER* ditemukan adanya *damage* pada saat mekanik melakukan GVI *(General Visual Inspection)* pada *static discharge* yaitu di bagian L/H Horizontal Stabilizer Tip, pada pesawat Boeing 737-800E dengan nomor registrasi PK-BGJ. Hal ini dapat menyebabkan adanya gangguan pada fungsi instrumen dan sistem komunikasi.

Identifikasi Masalah

a. *Static Discharge* meleleh akibat *lighting strike.*

Gambar 4.5 *discharger melting*

Ketika melakukan *visual check* pada area keberadaan *static discharge,* ditemukan bahwa ada salah satu *static discharge* yang ada di *right wing* dengan keadaan meleleh yang disebabkan adanya *lighting strike,* maka upaya yang harus dilakukan adalah *replacement* dengan mengikuti prosedur yang dijelaskan pada AMM (*Aircraft Maintenance Manual*) yaitu *Static Discharge removal/installation,* sebagai berikut:

4.4.4 *Static Discharger Removal*

4.4.4.1 General

Prosedur ini memiliki tugas sebagai berikut:

(1) Pelepasan *static discharge.*

4.4.4.2 Location Zones

Zone	***Area***
300	*Empennage*
500	*Left Wing*
600	*Right Wing*

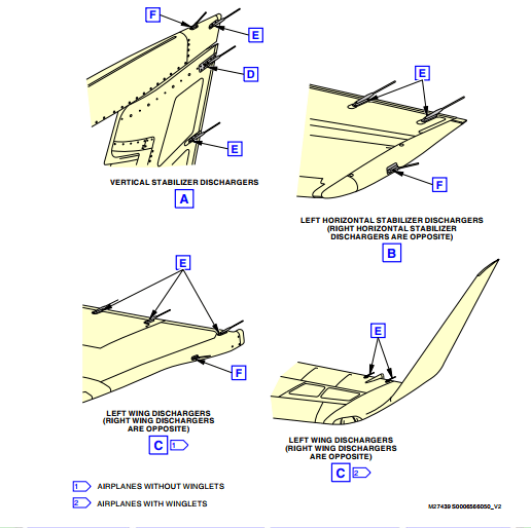
4.4.4.3 Procedure

1. Pesawat harus dalam keadaan tidak *operate*, *electrical* maupun *hydraulic.*
2. Menuju ke lokasi *static discharge* yang rusak
3. Longgarkan *setscrew static discharge*.

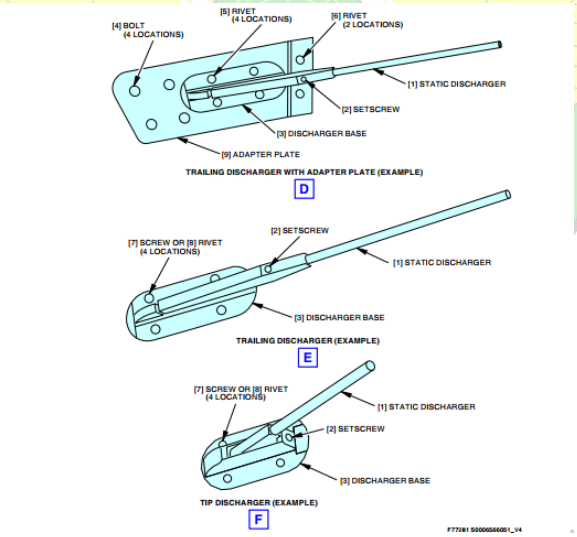
4. Lepaskan *static discharger* dari *discharger base*.

5. Pelepasan *static discharge* berhasil dilakukan

4.4.5 Static Discharge Installation



Gambar 4.6 Lokasi *static discharge*



Gambar 4.7 Bagian *static discharge*

4.4.5.1 Prosedur Pemasangan:

1. Pasang *setscrew* ke *static discharger*:

JANGAN GUNAKAN MATERIAL DARI PLASTIC KARENA TIDAK MENGIKAT DENGAN BENAR. *STATIC DISCHARGE* AKAN LEPAS DAN KERUSAKAN *EQUIPMENT* BISA TERJADI.

a. UNTUK *STATIC DISCHARGE* TANPA *NY-LOC* DI *SETSCREW* DAN *STATIC DISCHARGE* YANG BUKAN BERBASIS PLASTIK.

Oleskan sedikit *loctile* ke *setscrew thread.*

NOTE: Jangan gunakan *loctile* dengan *static discharge* berbasis plastik atau dengan *NY-LOC* di *setscrew*. *Loctile* akan bereaksi ke material plastik yang mana akan menyebababkan kegagalan koneksi dan mengakibatkan pemisahan *static discharger* dari pesawat.

b. Pasang *setscrew* ke *static discharger.*

c. Atur *setscrew* sampai membuat permukaan rata dengan *static discharger casting.*

2. Pasang *static discharger* ke *static discharger base*

a. Tahan *static discharger* di posisi yang benar dan kencangkan *setscrew* sesuai nilai. (Gunakan *torque wrench* 30 lbs).

b. Pastikan *static discharger* terpasang di *base* dengan benar.

4.4.5.2 *Resistance Test for Static Discharger*

Pastikan bahwa pengukuran resistansi dilakukan pada jarak 5 kaki dari *open fuel tank vent, open fuel tank doors* atau *open fuel tank access panel* dan 18 *inch* dari *ground*.

Gunakan *megaohmmeter* untuk mengukur resistansi antara *discharger tip* dan *discharger base*:

1. Atur *megaohmmeter* ke 500 VDC.
2. Buat penghubung permukaan yang baik dengan ujung *static discharger.*

NOTE: Koneksi yang baik antara ujung *discharger* dengan *megaohmmeter* sangat perlu untuk nilai resistansi yang benar.

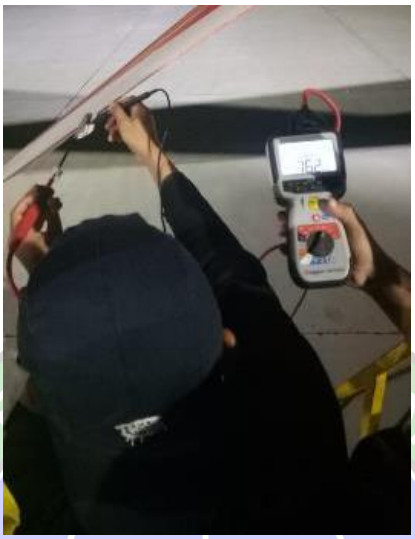
a. Gunakan air untuk membuat *wet cotton wiper*.

b. Pastikan bahwa ujung *discharger* tertutup wet *cotton wiper*.

3. Letakkan ujung *megaohmmeter* ke *static discharger base.*
4. Letakkan ujung *megaohmmeter* lainnya ke ujung *discharger* yang tertutup *wet cotton wiper.*
5. Ukur nilai resistansi.
6. Pastikan bahwa nilai resistansi diantara 6-100 *megaohm* untuk *discharger.*

NOTE: Jika nilai pengukuran terlalu tinggi tambahkan air ke *wet cotton wiper* kemudian lakukan pengukuran kembali.

7. Untuk *discharger* yang nilai resistansinya tidak sesuai, dilakukan pergantian *static discharger.*



Gambar 4.8 Pengujian resistansi

4.4.5.3 *Static Discharger Installation Test*

Tes pemasangan *static discharger:*

1. *Static discharge* dengan *metal shank.*

Pastikan bahwa resistansi tidak lebih dari 1 ohms.

2. *Static discharge* dengan *plastic shank.*

Pastikan bahwa resistansi tidak lebih dari 1 ohms.

NOTE: Resistansi yang melebihi nilai menyebabkan *damage* jika *lighting strike* terjadi.

4.4.6 *Replacement Integrated Flight Display*

4.4.6.1 *Inspection*

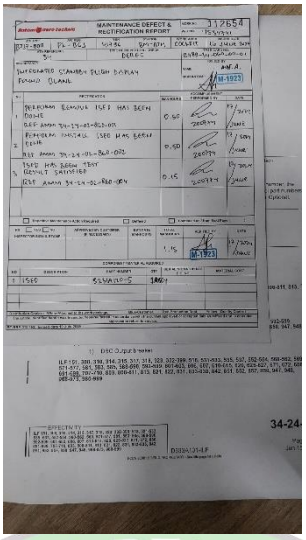
Inspection C-*Check* dilakukan sesuai dengan *Maintenance Manual* B737-800. Dilakukan inspeksi pada area *cockpit* guna mengetahui permasalahan pada area tersebut Berikut adalah dokumentasi yang dilakukan Ketika melakukan inspeksi pada area *cockpit*. Setelah dilakukan *inspection* telah ditemukan beberapa

masalah yang serius yaitu pada *Integrated Standby Flight Display* ditemukan tidak menyala.

Gambar 4.9 *Integrated Flight Display*

4.4.6.2 *Identification*

Pada pesawat PK-BGJ, dilakukan schedule maintenance sudah memasuki masa waktu C-*Check 04* harus dilakukan general *inspection* pada area *cockpit*, dan ditemukan bahwa *Integrated Standby Flight Display* dengan *part number* 5231A120-5 rusak sehingga selanjutnya akan dilakukan pergantian. *Integrated Standby Flight Display* memiliki kerusakan yang serius pad ISFD yang tidak dapat menyala. Dengan hal ini *engineer* memutuskan untuk melaksanakan program *unschedule maintenance* atau membuat *MDRR* dengan mengikuti anjuran dari *AMM*.



Gambar 4.10 *Integrated Standby Flight Display* MDRR

4.4.6.3 *Rectification*

Rectification dilaksanakan setelah dibuatnya *MDRR*. Dalam *operational test* ini, berbagai percobaan dilakukan beberapa kali untuk memastikan keandalan sistem sesuai dengan *Ref. FIM* 34-24 TASK 804. Terdapat beberapa *possible cause* dari troubleshooting Integrated Flight Display ini.

1. *Power Loss*
2. Integrated Standby Flight Display, N226
3. ISFD Dedicated Battery System, M2100

Repair

Maka, hal yang harus dilakukan adalah dengan mengganti ISFD dengan mengikuti *Ref. AMM* TASK 34-24-02-000-801 dan *Ref. AMM T*ASK 34-24-02-400-801. Sebelum mengerjakan penggantian ISFD, terlebih dahulu adalah menyiapkan tools yang akan digunakan, diantaranya, *Screwdriver, Safety clip - circuit breaker, warning notice(s).* Setelah semua konfigurasi telah disiapkan maka lanjut ke prosedur pengerjaan remove dan install.

Dengan didampingi supervisor masuk kedalam cockpit dengan membawa screwdriver untuk membuka ISFD. Setelah semuanya terbuka, maka ikuti prosedur *remove* dengan *Ref.* TASK 34-24-02-000-801. Kemudian ISFD dilepas dan diganti dengan ISFD yang baru sesuai dengan part number 5231A120-5,

selanjutnya masuk ke fase *installation* dengan *ref. AMM* TASK 34-24-02-400-801.

Gambar 4.11 Proses *Replacement ISFD*

4.4.6.4 Installation Test

Setelah pelaksanaan *repair* dengan penggatian ISFD yang baru. Selanjutnya adalah dengan melaksanakan *installation test* kembali dengan mengikuti *Ref. AMM* TASK 34-24-02-400-801. Didapat hasil bahwa ISFD kembali menyala secara normal yang dapat dilihat pada gambar berikut.

Gambar 4.12 *Integrated Standby Flight Display*

4.4.6.5 Return to Service

Setelah *serviceable engineer* akan melakukan *close MDRR* sesuai permasalahan yang ada lalu menanda tangan dan stamp pada taskcard tersebut. Setelah pekerjaan selesai *taskcard* ditulis pada *resume book laporan* sesuai *taskcard* yang dikerjakan dan direview oleh *chief line* masing-masing setiap harinya.

4.4.7 *Replacement Window Light Assembly*

4.4.7.1 *Inspection*

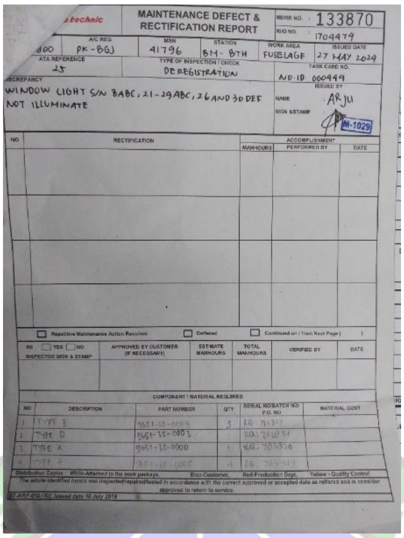
Inspection C-Check dilakukan sesuai dengan *Maintenance Manual* B737-800. Dilakukan inspeksi pada area *cabin* guna mengetahui apakah terdapat permasalahan pada area tersebut Berikut adalah dokumentasi yang dilakukan Ketika melakukan inspeksi pada area *cockpit*. Setelah dilakukan *inspection* telah ditemukan beberapa masalah yaitu pada *Window Light* ditemukan tidak menyala.

Gambar 4.13 *Window Light*

4.4.7.2 *Identification*

Pada pesawat PK-BGJ, dilakukan schedule maintenance sudah memasuki masa waktu C-*Check 04* harus dilakukan general *inspection* pada area *cabin*, dan ditemukan bahwa *Window Light* pada seat 8ABC, 21-29ABC, 26DEF, DAN 30DEF tidak menyala sehingga selanjutnya akan dilakukan pergantian *Window Light Assembly*. Dengan hal ini *engineer* memutuskan untuk melaksanakan

program *unschedule maintenance* atau membuat *MDRR* dengan mengikuti anjuran dari *AMM*.



technic

MAINTENANCE DEFECT & RECTIFICATION REPORT

MDRR NO. : 133870

W/O NO. : 1704474

A/C REG: PK-BGJ | MSN: 41796 | STATION: BM - BTH | WORK AREA: FUSELAGE | ISSUED DATE: 27 MAY 2024

ATA REFERENCE: 25 | TYPE OF INSPECTION / CHECK: DEREGISTRATION | TASK CARD NO.: NO.ID 000449

DISCREPANCY: WINDOW LIGHT S/N 8ABC, 21-29ABC, 26 AND 30 DEF NOT ILLUMINATE

ISSUED BY — NAME: ARJU — SIGN & STAMP: M-1029

NO	RECTIFICATION	MANHOURS	PERFORMED BY	DATE

☐ 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	TYPE E	[illegible]	3	[illegible]	
2	TYPE D	[illegible]	[illegible]	[illegible]	
3	TYPE A	[illegible]	1	[illegible]	
4	TYPE F	[illegible]	4	[illegible]	

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.

Gambar 4.14 *Window Light* MDRR

4.4.7.3 *Rectification*

Rectification dilaksanakan setelah dibuatnya *MDRR*. Dalam *operational test* ini, berbagai percobaan dilakukan beberapa kali untuk memastikan keandalan sistem sesuai dengan *Ref. FIM* 33-20 TASK 806. Terdapat beberapa *possible cause* dari troubleshooting Window Light ini.

1. *Wiring*
2. *Window Light Assembly*

Maka, hal yang harus dilakukan adalah dengan mengganti *Window Light Assembly* dengan mengikuti *Ref. AMM* TASK 33-21-00-960-802. Sebelum mengerjakan penggantian Window Light Assembly, terlebih dahulu adalah menyiapkan tools yang akan digunakan, diantaranya, *Screwdriver*. Setelah semua konfigurasi telah disiapkan maka lanjut ke prosedur pengerjaan remove dan install.

Dengan didampingi supervisor masuk kedalam *cabin* dengan membawa screwdriver untuk membuka Light Assembly. Setelah semuanya terbuka, maka ikuti prosedur *replacement* dengan *Ref. AMM* TASK 33-21-00-960-802. Kemudian *Light Assembly* dilepas dan diganti dengan *Light Assembly* yang baru sesuai dengan *part number*.

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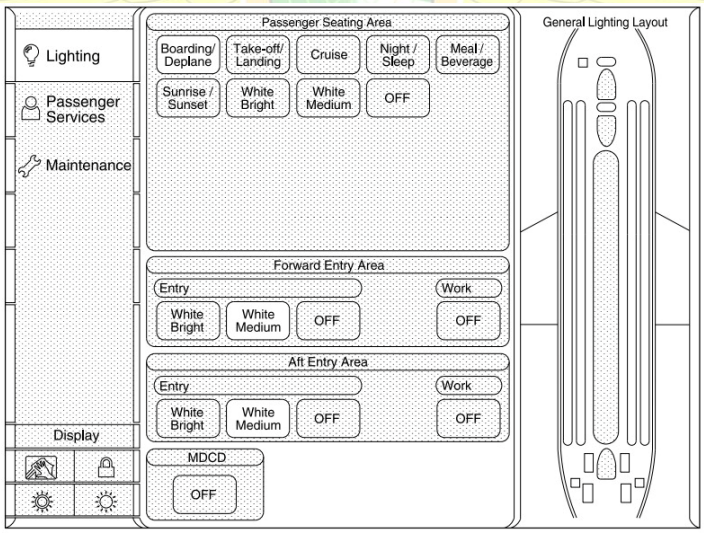
Gambar 4. 15 Proses *Replacement Window Light*

4.4.7.4 *Functional Test*

Setelah pelaksanaan *repair* dengan penggatian Window Light yang baru. Selanjutnya adalah dengan melaksanakan *operational test* kembali dengan mengikuti *Ref. AMM* TASK 33-21-00-440-802. Didapat hasil bahwa Window Light kembali menyala secara normal.



Gambar 4.16 *Lighting System*

Gambar 4.17 *Window Light* kembali menyala

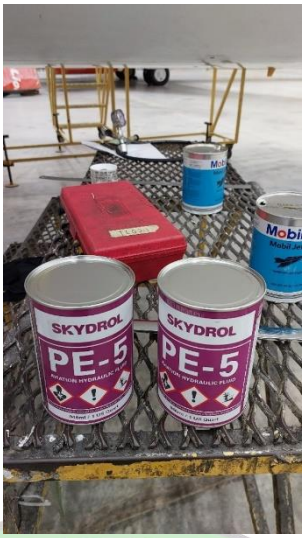
4.4.7.5 *Return to Service*

Setelah *serviceable engineer* akan melakukan *close MDRR* sesuai permasalahan yang ada lalu menanda tangan dan stamp pada taskcard tersebut. Setelah pekerjaan selesai *taskcard* ditulis pada *resume book laporan* sesuai *taskcard* yang dikerjakan dan direview oleh *chief line* masing-masing setiap harinya.

4.4.8 *IDG Oil Change*

4.4.8.1 *Identification*

IDG Oil Change pada pesawat Boeing 737-800 PK-BGJ dilakukan pada saat pesawat memasuki masa maintenance phase atau C-Check yang bertujuan untuk mengganti ulang oli yang lama pada IDG dengan oli yang baru. Penggantian oli pada IDG menggunakan mobil jet oil II.



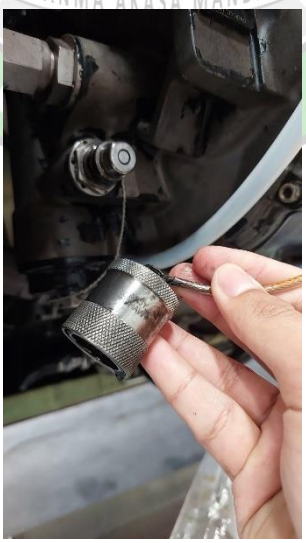
Gambar 4.18 *Integrated Drive Motor Oil*

4.4.8.2 *Inspection*

Inspection dilakukan oleh mekanik dengan melakukan cleaning pada area IDG menggunakan kain/majoon yang bertujuan untuk membersihkan dari kotoran.

4.4.8.3 *Dissasembly*

Pada proses penggantian oli IDG Langkah pertama yang dilakukan, yaitu melepas *safety wiring* yang berada pada *case drain plug*, sebelum melepas *case drain plug* menghilangkan *differential pressure*, setelah menghilangkan *differential pressure* lalu mekanik membuka *drain plug* dengan menggunakan *wrench*.



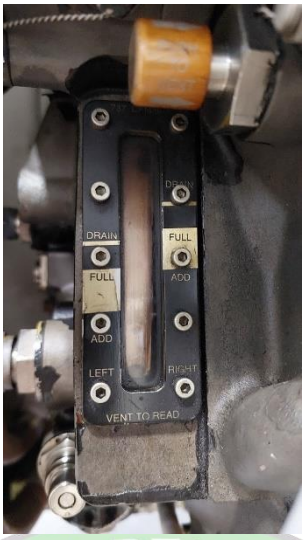
Gambar 4.19 Proses Pelepasan *Pressure Fill Cover*

Gambar 4.20 Proses Pelepasan *Safety Wiring*

4.4.8.4 Servicing

Servicing dilakukan dengan cara *draining oil* pada IDG dan kemudian mengisi dengan oli yang baru dngan melihat *indicator* pada *Integrated Drive Generator Sight Glass* untuk melihat indikator seberapa oli yang telah terisi.

Gambar 4.21 Proses *Draining Oil*



Gambar 4.22 *Integrated Drive Motor Sight Glass*

4.4.8.5 Re-Assembly

Pada tahap *Re-Assembly,* mekanik memasang kembali O-ring yang baru pada case drain plug, kemudian memasang kembali *case drain plug* menggunakan *wrench* dengan besaran torsi 65 ±10 in-lb atau 7 ±1 N·m. Setelah memasang *case drain plug*, kemudian memasang *safety wiring* pada *case drain plug* dan menutup kembali *pressure fill cover*.

Gambar 4.23 Pemasangan Kembali *Safety Wiring*

4.4.8.6 Return to Service

Pada tahap *return to service, engineer* melakukan *double check* sesuai dengan step pada taskcard, lalu engineer akan melakukan close tackcard dengan cara menandatangani dan memberi stamp pada taskcard.

BAB 5
PENUTUP

5.1 Kesimpulan

5.1.1 Kesimpulan Bab IV

Landing Light Retracable terletak pada fuselage pesawat bagian bawah tepatnya dekat ram air inlet panel, yang memiliki fungsi sebagai alat bantu penerangan pilot pada area depan pesawat (runway), Ketika *taxi, takeoff* dan *landing*. Berdasarkan uraian bab IV, dapat disimpulkan bahwa *Landing Light - Retractable not retract* di temukan *fail* pada *Extend/Retract motor doesn't operate normally*. Jadi sesuai prosedur pada FIM (*Fault Isolation Manual) FIM 33-40 TASK 801 and WDM 33-42-11* yang perlu dilakukan adalah melakukan *replacement* pada *Light Assy-Landing* sesuai *AMM 33-42-02-960-802* agar *system Landing Light – Retracable operate normally.*

Replacement static discharger pada horizontal tip di right horizontal stabilizer compartment berfungsi untuk mengatasi listrik statis yang diakibatkan oleh gesekan antara pesawat dengan udara agar memperlancar sistem komunikasi dan navigasi pesawat. Dilakukan replacement static discharger karena sudah rusak a sesuai dengan yang tertera pada prosedur *Aircraft Maintenance Manual* (AMM).

Integrated Flight Display terletak pada center instrument panel, yang berfungsi sebagai backup jika *Electronic Flight Instrument System* (EFIS) mengalami fail, maka diperlukan replacement karena sudah rusak sesuai pada 34-24 TASK 804.

Window light yang terletak pada passenger compartment yang berfungsi sebagai penerangan bagi penumpang saat melakukan boarding, diperlukan replacement karena tidak menyala atau mati, maka diperlukan replacement karena sudah rusak sesuai pada FIM (*Fault Isolation Manual*) 33-20 TASKS 806.

Integrated Drive Generator yang terletak pada disamping *engine accessory gearbox*, penggantian *Integrated Drive Generator Oil* sangat penting dikarenakan sebagai komponen pendingin pada generator diperlukan penggantian oli karena

sudah melewati *schedule time* dari penggantian oli tersebut sesuai pada Taskcard 24-010-02-01.

5.1.2 Kesimpulan Pelaksanaan OJT

Berdasarkan kegiatan On the Job Training yang telah dilaksanakan, maka dapat diambil kesimpulan bahwa On the Job Training bermanfaat bagi taruna. Pelaksanaan kegiatan sangat bermanfaat ditinjau 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 dapat mengukur kemampuan kerjanya masing – masing.

2. Pengembangan Wawasan dan Kreatifitas

Dengan kegiatan ini, taruna dapat mengembangkan wawasan dan kreatifitas sehingga dapat menumbuhkan profesionalisme. Oleh karena itu, kegiatan ini sangat perlu dilaksanakan oleh taruna untuk menambah gambaran dan pengalaman dalam dunia kerja.

3. Inisiatif dan Kreatifitas

Dari pemaparan diatas dapat disimpulkan bahwa ketika mengalami pengalaman pekerjaan disuatu perusahaan dibidang apapun, sangat menunjang dalam berkarir terutama keberanian berspekulasi dengan kesempatan yang ada untuk menuju kesuksesan. Kreatifitas untuk memperoleh ilmu harus diterapkan supaya mendapatkan pengetahuan yang luas dalam dunia penerbangan terutama saat terjun di lapangan.

4. Disiplin dan Tanggung Jawab

Selain itu, kegiatan ini dapat menambah kedisiplinan, disiplin dalam waktu, efisiensi kerja dan digunakan untuk mematuhi aturan yang berlaku, serta belajar bertanggung jawab dari setiap tindakan maupun keputusan yang diambil.

5.2 Saran

5.2.1 Saran bab IV

a) Pastikan *circuit breaker* pada posisi terputus Ketika melakukan pekerjaan *remove/install.*
b) Gunakan sarung tangan pada saat melakukan replacement.

c) Lakukan pekerjaan sesuai taskcard/job instruction dan referensi yang ada.
d) Lakukan double cek dilakukan oleh dua orang supaya tidak ada yang tertinggal seperti ketika mechanic selesai mengerjakan minta engineer untuk mengecek ulang.
e) Jangan melakukan remove and install dalam keadaan tangan bekas flammable yang bias mengakibatkan contactor terbakar

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POLITEKNIK PENERBANGAN SUJANMA AKASA MANDALA SURABAYA

LAMPIRAN

Lampiran 1 *Fault Isolation Manual* 33-40 TASK 801

BOEING

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

801. Exterior Lighting Problem - Fault Isolation

A. Description

(1) Wing Illumination Lights (SDS SUBJECT 33-41-00)

(2) Landing Lights (SDS SUBJECT 33-42-00)

(3) Position Lights (SDS SUBJECT 33-43-00)

ILF 101, 151, 156-199, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 401, 402, 409, 410, 412, 416, 424, 425, 427-429, 451, 452, 493-503, 508-510, 512-516, 518, 520, 523-528, 530-533, 535-537, 542, 552-554, 556, 557, 560-564, 567-569, 573-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 708, 804-807, 812, 821, 822, 831-838, 842, 851, 852, 854-858, 861-863, 872-874, 947, 948, 968-973, 980-999

NOTE: There are two LED module assemblies in each light assembly. All LED bulbs in the LED modules must be operational per certification requirement. If a single LED is not operational then the module intensity is not sufficient to meet the requirement.

ILF ALL

(4) Taxi and Runway Turnoff Lights (SDS SUBJECT 33-45-00)

(5) Logo Lights (SDS SUBJECT 33-49-00)

B. Possible Causes

(1) Use the applicable System Schematic Manual (SSM) or Wiring Diagram Manual (WDM) in the table below to identify possible causes for the lighting problem.

C. Circuit Breakers

(1) Use the applicable SSM or WDM in the table below to identify the circuit breakers related to the problem.

D. Related Data

(1) Use the table below to identify the applicable SSM and WDM for the exterior lights.

E. Initial Evaluation

(1) AIRPLANES WITH CABIN/UTILITY SWITCH ON THE P5-13 PANEL:
Make sure CAB/UTIL switch is in the ON position.

(2) In this table, find the light that does not operate correctly and its applicable SSM and WDM.

Table 201

LIGHT	SSM/WDM
Wing Illumination Lights	33-41-11
Position (Nav) Lights, Wing Aft	33-43-11
Position (Nav) Lights, Wing Forward	33-43-11
ILF 101, 151, 156-199, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 401, 402, 405, 406, 409, 410, 412, 416, 424, 425, 427-429, 451, 452, 493-504, 507-510, 512-516, 518, 520, 523-528, 530-533, 535-537, 542, 552-554, 556, 557, 560-564, 567-569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 610-615, 620, 671, 672, 686, 691-699, 703, 707-710, 803-813, 821, 822, 831-833, 836, 837, 842, 851, 852, 854-858, 861-863, 872-874, 947, 948, 968-973, 980-999	
Landing Lights, Fixed	33-42-11
Landing Lights, Retractable	33-42-11
Runway Turnoff Lights	33-45-11

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Table 201 (Continued)

LIGHT	SSM/WDM
Taxi Light	33-45-11
ILF 607, 625-627, 834, 835, 838	
Landing Taxi and Runway Turnoff Lighting System	33-42-21
ILF ALL	
Logo Lights	33-49-11

(3) On the applicable SSM or WDM, identify the control for the light.

(4) Set the light to the ON mode, then all other possible modes, including OFF.

(a) If the light operates correctly in all possible modes, then there was an intermittent problem.

1) Set the light to the usual mode.

(b) If the light does not operate correctly in all possible modes, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the light does not come on, then replace the lamp.

(a) To replace it, use the applicable task that follows:

1) For a wing illumination light, do this task:

Wing Illumination Light - Lamp Replacement, AMM TASK 33-41-00-960-801 or

Wing Illumination Light - LED Module Replacement, AMM TASK 33-41-00-960-804.

2) For a fixed landing light, do this task:

Fixed Landing Light - Lamp Replacement, AMM TASK 33-42-01-960-801 or Fixed Landing Light - Main Array Assembly Replacement, AMM TASK 33-42-01-960-803.

ILF 101, 151, 156-199, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 401, 402, 405, 406, 409, 410, 412, 416, 424, 425, 427-429, 451, 452, 493-504, 507-510, 512-516, 518, 520, 523-528, 530-533, 535-537, 542, 552-554, 556, 557, 560-564, 567-569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 610-615, 620, 671, 672, 686, 691-699, 703, 707-710, 803-813, 821, 822, 831-833, 836, 837, 842, 851, 852, 854-858, 861-863, 872-874, 947, 948, 968-973, 980-999

3) For a retractable landing light, do this task:

Retractable Landing Light - Lamp Replacement, AMM TASK 33-42-02-960-801.

ILF ALL

4) For a forward wing position light, do this task:

Forward Position Light - Lamp Replacement, AMM TASK 33-43-01-960-801 or Forward Position Light with Single Lens - Lamp Replacement, AMM TASK 33-43-11-960-801 or Forward Position Light with Dual Lens - Lamp Replacement, AMM TASK 33-43-11-960-802

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ILF 606, 607, 611-615, 620, 625-627, 692-699, 833-835, 838

5) For a winglet LED position light, do this task;

Position Light - LED Light Control PBA Replacement, AMM TASK 33-43-10-960-802

ILF ALL

6) For an aft wing position light, do this task:

Aft Position Light - Lamp Replacement, AMM TASK 33-43-02-960-801 or Aft Position Light - Lamp Replacement, AMM TASK 33-43-12-960-801.

ILF 101, 151, 156-199, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 401, 402, 405, 406, 409, 410, 412, 416, 424, 425, 427-429, 451, 452, 493-504, 507-510, 512-516, 518, 520, 523-528, 530-533, 535-537, 542, 552-554, 556, 557, 560-564, 567-569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 610-615, 620, 671, 672, 686, 691-699, 703, 707-710, 803-813, 821, 822, 831-833, 836, 837, 842, 851, 852, 854-858, 861-863, 872-874, 947, 948, 968-973, 980-999

7) For a taxi light, do this task:

Taxi Light - Lamp Replacement, AMM TASK 33-45-01-960-801.

ILF ALL

8) For a runway turnoff light, do this task:

Runway Turnoff Light - Lamp Replacement, AMM TASK 33-45-02-960-801 or Runway Turnoff Light - Light Assembly Replacement, AMM TASK 33-45-02-900-801.

ILF 412, 507, 557, 821, 822, 836, 837

9) For an airstair tread light, do this task:

Airstair Tread Light - Operational Test, AMM TASK 33-46-00-710-801.

ILF ALL

10) For a logo light, do this task:

Logo Light - Lamp Replacement, AMM TASK 33-49-00-960-801 or

Logo Light - LED Module Replacement, AMM TASK 33-49-00-960-804.

(b) If the light operates correctly in all possible modes, then you corrected the problem.

(c) If the light does not operate correctly in all possible modes, then continue.

WARNING MAKE SURE THAT YOU PREVENT AN ELECTRICAL SHOCK BEFORE YOU DO COMPONENT REPLACEMENTS. OPEN CIRCUIT BREAKERS TO REMOVE ELECTRICAL POWER. WHEN YOU SUPPLY ELECTRICAL POWER TO THE LIGHTING SYSTEM, IT CAN CAUSE ACCIDENTAL GROUNDS DURING MAINTENANCE WORK THAT CAN CAUSE ELECTRICAL SHOCK.

(2) If the light does not go off, then use the applicable SSM or WDM to replace the switch.

(a) If a circuit breaker was opened, then close it.

(b) Set the light to the ON mode, then to the OFF mode.

(c) If the light goes off, then you corrected the problem.

(d) If the light does not go off, then continue.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

WARNING MAKE SURE THAT YOU PROTECT YOURSELF FROM ELECTRICAL SHOCK BEFORE YOU DO WIRING CHECKS, COMPONENT REPLACEMENTS, OR WIRING REPAIRS. OPEN CIRCUIT BREAKERS OR SET SWITCHES TO THE OFF MODE TO REMOVE ELECTRICAL POWER. ACCIDENTAL GROUNDS DURING MAINTENANCE ACTIVITIES CAN CAUSE ELECTRICAL SHOCK WHEN ELECTRICAL POWER IS SUPPLIED TO THE LIGHTING SYSTEM.

(3) If the light does not operate correctly in all possible modes, including off, then use the SSM or WDM to examine the lighting circuitry.

(a) Do continuity checks between the source of power and the light.

(b) If you identify a component in the lighting circuitry that does not operate correctly, then replace the component.

1) If a circuit breaker was opened, then close it.

2) Set the light to the ON mode, then all other possible modes, including OFF.

3) If the light operates correctly in all possible modes, then you corrected the problem.

a) Set the light to the usual mode.

(c) If all components in the lighting circuitry operate correctly, then repair the wiring.

1) If a circuit breaker was opened, then close it.

2) Set the light to the ON mode, then all other possible modes, including OFF.

3) If the light operates correctly in all possible modes, then you corrected the problem.

4) Set the light to the usual mode.

END OF TASK

ILF 606, 607, 611-615, 620, 625-627, 692-699, 833-835, 838

Lampiran 2 Aircraft Maintenance Manual Task 33-42-02-960-802

TASK 33-42-02-960-802

6. Retractable Landing Light - Light Assembly Replacement

(Figure 203)

A. References

Reference	Title
51-21-99-300-801	Decorative Exterior Paint System Application (P/B 701)
WDM 33-42-11	Wiring Diagram Manual

B. Tools/Equipment

Reference	Description
STD-14062	Protractor - Digital (0 to 100 degree, Maximum Accuracy of +/- 0.1 degree)

C. Consumable Materials

Reference	Description	Specification
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796 Class III

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Location Zones

Zone	Area
123	Forward Cargo Compartment - Left
124	Forward Cargo Compartment - Right

E. Access Panels

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

F. Light Assembly Replacement

SUBTASK 33-42-02-860-006

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

(WDM 33-42-11)

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	14	C00274	EXTERIOR LIGHTING LANDING RIGHT RETR
C	15	C00273	EXTERIOR LIGHTING LANDING LEFT RETR

SUBTASK 33-42-02-010-001

(2) For access to the aft side of the retractable landing light, do this step:

(a) Open the applicable access panel:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

SUBTASK 33-42-02-960-002

(3) Do these steps to replace the light assembly:

(a) Disconnect the electrical connector [25].

(b) Remove the nut [22], nut [24], and washer [23] to disconnect the jumper [21].

(c) Loosen the bolts [26].

(d) Remove the light assembly [28].

NOTE: Keep the used light assembly. Possible repairs can be done in a shop.

(e) Put the new light assembly [28] in the opening.

1) Make sure that the lamp is installed (TASK 33-42-02-960-801).

(f) Install the bolts [26] with the corrosion-preventative compound, C00528.

(g) Install the nut [22], nut [24], and washer [23] to connect the jumper [21] to the new light assembly.

(h) Connect the electrical connector [25] to the new light assembly.

1) Use a strap wrench or plug pliers to tighten the coupling nut on the electrical connector in the clockwise direction until it no longer rotates.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 33-42-02-860-007

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

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	14	C00274	EXTERIOR LIGHTING LANDING RIGHT RETR
C	15	C00273	EXTERIOR LIGHTING LANDING LEFT RETR

SUBTASK 33-42-02-710-002

(5) Do a test of the new light assembly:

(a) At the P5 overhead panel, set the switch for the retractable landing light to the extend mode.

(b) Put the digital protractor, STD-14062, against the retractable landing light.

ILF 803, 808-811, 813

1) Make sure that the light extends fully, 77.4 ± 0.5 degrees.

a) If it is necessary to adjust the light, do this task: Retractable Landing Light - Light Adjustment, TASK 33-42-02-960-803.

ILF 151, 156-199, 401, 402, 405, 416, 452, 508-510, 523, 525-528, 536, 542, 571-577, 671, 672, 686, 703, 707-710, 854-856, 861-863, 872-874, 968-970, 972, 973

2) Make sure that the light extends fully, 78.8 ± 0.5 degrees.

a) If it is necessary to adjust the light, do this task: Retractable Landing Light - Light Adjustment, TASK 33-42-02-960-803.

ILF 101, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 406, 409, 410, 412, 424, 425, 427-429, 451, 493-504, 507, 512-516, 518, 520, 524, 530-533, 535, 537, 552-554, 556, 557, 560-564, 567-569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 610-615, 620, 691-699, 804-807, 812, 821, 822, 831-833, 836, 837, 842, 851, 852, 857, 858, 947, 948, 971, 980-999

3) Make sure that the light extends fully, 81.2 ± 0.5 degrees.

a) If it is necessary to adjust the light, do this task: Retractable Landing Light - Light Adjustment, TASK 33-42-02-960-803.

ILF 101, 151, 156-199, 301, 304, 308, 310, 314, 315, 317, 318, 323, 331-399, 401, 402, 405, 406, 409, 410, 412, 416, 424, 425, 427-429, 451, 452, 493-504, 507-510, 512-516, 518, 520, 523-528, 530-533, 535-537, 542, 552-554, 556, 557, 560-564, 567-569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 610-615, 620, 671, 672, 686, 691-699, 703, 707-710, 803-813, 821, 822, 831-833, 836, 837, 842, 851, 852, 854-858, 861-863, 872-874, 947, 948, 968-973, 980-999

(c) Set the switch to the on mode.

1) Make sure that the light comes on.

(d) Set the switch to the retract mode.

1) Make sure that the light goes off.

2) Make sure that the light retracts and is flush with the housing.

a) If it is necessary to adjust the light, do this task: Retractable Landing Light - Light Adjustment, TASK 33-42-02-960-803.

SUBTASK 33-42-02-010-002

(6) Close the applicable access panel:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

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SUBTASK 33-42-02-370-002

(7) If it is necessary to paint the new light assembly, do this task: Decorative Exterior Paint System Application, TASK 51-21-99-300-801.

——— END OF TASK ———

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Lampiran 3 Aircraft Maintenance Manual Task 33-42-02-440-801

TASK 33-42-02-440-801

3. **Retractable Landing Light - Activation**

(Figure 201)

A. General

(1) This procedure adds electrical power to the retractable landing lights.

B. Location Zones

Zone	Area
123	Forward Cargo Compartment - Left
124	Forward Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 33-42-02-860-017

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

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	14	C00274	EXTERIOR LIGHTING LANDING RIGHT RETR
C	15	C00273	EXTERIOR LIGHTING LANDING LEFT RETR

——— END OF TASK ———

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Lampiran 4 Aircraft Maintenance Manual Task 23-61-00-000-801

STATIC DISCHARGERS - MAINTENANCE PRACTICES

1. **General**

   A. This procedure has these tasks:

   (1) A removal of the static discharger.

   (2) An installation of the static discharger.

   (3) A removal of the static discharger base.

   (4) An installation of the static discharger base.

TASK 23-61-00-000-801

2. **Static Discharger Removal**

(Figure 201)

A. General

(1) The static dischargers are installed on the edge of the airplane wing and tail.

(2) The discharger is held by a setscrew on its base.

(3) The base is attached to the airplane surface.

B. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)

C. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

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D. Procedure

SUBTASK 23-61-00-860-021

WARNING MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-022

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-010-001

(3) Get access to the defective static discharger.

SUBTASK 23-61-00-020-001

(4) Loosen the static discharger setscrew [2].

SUBTASK 23-61-00-020-002

(5) Remove the static discharger [1] from the discharger base [3].

SUBTASK 23-61-00-010-002

(6) If it is necessary, put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Lampiran 5 Aircraft Maintenance Manual Task 23-61-00-400-801

TASK 23-61-00-400-801

3. **Static Discharger Installation**

(Figure 201)

A. References

Reference	Title
23-61-00-990-803	Figure: Chelton Static Discharger Resistance Test (P/B 601)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

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-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). **737-600, -700, -800** Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
COM-1587	Wrench - Torque, 30 in-lbs (4 N-m) **737-600, -700, -800** Part #: TE3FUA Supplier: 55719
COM-6457	Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements) **737-600, -700, -800** Part #: 1864-9700 Supplier: 62015 Part #: 1865PLUS Supplier: 62015 Part #: 1865PLUSCE Supplier: 62015 Part #: 2471F Supplier: 21844 Opt Part #: 1865-00-CE Supplier: 62015

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C. Consumable Materials

Reference	Description	Specification
A00648	Compound - Retaining - Loctite 242	ASTM D5363 Grp 3 Cl 2 Gd 1 (SUPERSEDES MIL-S-46163)

D. Prepare Procedure

SUBTASK 23-61-00-860-023

WARNING MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces:

(a) Do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801, and/or

(b) Do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802, and/or

(c) Do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-024

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

E. Static Discharger Inspection and Test Before Installation

SUBTASK 23-61-00-210-004

(1) Do a visual inspection for the static discharger assembly:

(a) Replace the static discharger assembly if you find it broken, damaged, or the metal pins are broken, blunt, or bent.

SUBTASK 23-61-00-910-001

WARNING OBEY THE PRECAUTIONS THAT FOLLOW WHEN YOU USE A MEGOHMMETER. IF YOU DO NOT OBEY THESE PRECAUTIONS, THEN IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(2) Use these precautions for possible fuel vapors when you use a megohmmeter:

(a) Use the insulation meter, COM-6457 or equivalent meter with a 500 VDC test voltage and a maximum 5 milliampere short circuit current.

(b) Do not use a megohmmeter at these locations:

1) A five foot (1.524 meters) diameter, vertical column areas adjacent to or below:

- a wing fuel tank vent (from the vent to the ground).
- open fuel tank doors (from the door to the ground).
- open fuel tank access panels (from the panel to the ground).

2) Zero to 18 inches (457 mm) above the ground in the area around the airplane.

(c) Make sure that:

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1) Area is well ventilated.
2) Metal workstands are grounded.
3) Megohmmeter is plugged into a grounded receptacle.
4) Megohmmeter is insulated from metal work stands.

SUBTASK 23-61-00-910-002

(3) Move the static dischargers to a safe location for the test with a megohmmeter.

SUBTASK 23-61-00-700-001

(4) DAYTON-GRANGER AND OTHER STATIC DISCHARGERS NOT SUPPLIED BY CHELTON;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 VDC test voltage.
(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.
(c) To make a good connection with the end of the discharger tip, use a wet paper towel, cotton cloth or a sponge.
(d) Put the wet towel on the end of the discharger tip.
(e) Put the megohmmeter connectors on the shank of the static discharger and on the wet towel at the end of the tip.
1) Make sure that the measured resistance is between 6-100 megohms.
2) If the resistance measured is high, make sure that the meter lead and the end of the discharger tip touch the wet towel.
(f) Add more water if it is necessary and measure again.
1) Use the lowest measured value.

SUBTASK 23-61-00-700-002

(5) CHELTON SUPPLIED STATIC DISCHARGER ONLY;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 V dc (volts direct current) test voltage.
(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.
(c) To make a good connection with the end of the discharger tip, use a wet material.
(d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe.

(e) Put one megohmmeter probe on the shank of the static discharger and one probe on the edge of the wet material at the end of the discharger tip. See Alternate (Off Wing) Discharger Resistance Test Detail II (Figure 23-61-00-990-803).
1) Make sure that the measured resistance is between 6-100 megohms.
2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.
(f) Add more water if it is necessary and measure again.

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1) Use the lowest measured value.

F. Installation Procedure

SUBTASK 23-61-00-420-012

(1) Install the setscrew into the static discharger as follows:

CAUTION DO NOT USE THIS MATERIAL WITH PLASTIC-BASED MATERIALS. IT WILL NOT BOND CORRECTLY. THE STATIC DISCHARGER WILL COME OFF. DAMAGE TO EQUIPMENT WILL OCCUR.

(a) FOR STATIC DISCHARGERS WITHOUT NY-LOC INSERT IN THE SETSCREW AND STATIC DISCHARGERS THAT ARE NOT PLASTIC-BASED MATERIAL;

Apply a thin layer of Loctite 242 compound, A00648 to the setscrew threads.

NOTE: Do not use Loctite with the plastic-based material static discharger or with NY-LOC insert in the setscrew. Loctite reacts to the plastic materials that will cause eventual failure of the bond and result in separation of the static discharger from the airplane.

(b) Install the setscrew on the static discharger.

(c) Adjust the setscrew until it makes a continuous surface with the static discharger casting.

SUBTASK 23-61-00-420-001

(2) Install the static discharger [1] into the static discharger base [3]:

(a) Hold the static discharger [1] in the correct position and tighten the setscrew [2] to this value:

ILF ALL; AIRPLANES WITH STATIC DISCHARGERS 2-14SC1, 2-16SC1, 740001, 740007, 80-1746-2, AND 80-1828-2

1) Tighten the setscrew [2] to 6 in-lb (0.68 N·m) -9 in-lb (1.02 N·m) using a torque wrench (30 in-lbs), COM-1587.

ILF ALL; AIRPLANES WITH STATIC DISCHARGERS 10-900-21 AND 10-900-25

2) Tighten the setscrew [2] to 2.5 in-lb (0.28 N·m) using a torque wrench (30 in-lbs), COM-1587.

ILF ALL

(b) Make sure that the static discharger [1] is attached to its base correctly.

G. Static Discharger Installation Test

SUBTASK 23-61-00-700-003

WARNING MAKE SURE THAT THE BONDING METER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(1) STATIC DISCHARGERS WITH METALLIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the static discharger shank and the static discharger base.

(a) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

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(2) STATIC DISCHARGERS WITH PLASTIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the setscrew in the static discharger shank and the static discharger base.

(a) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-010-003

(1) If it is necessary, put the hydraulic systems back to the usual condition:

(a) Do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802, and/or

(b) Do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802, and/or

(c) Do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

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Lampiran 6 Fault Isolation Manual 34-24 TASK 804

804. Integrated Standby Flight Display Blank - Fault Isolation

A. Description

(1) The Integrated Standby Flight Display (ISFD) is blank.

B. Possible Causes

(1) Power loss

(2) Integrated Standby Flight Display, N226

(3) ISFD Dedicated Battery System, M2100

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 708-710			
---	---	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552, 554, 560-562, 569, 571, 572, 574-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707, 803, 808, 809, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			
D	8	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 553, 573, 810, 811			
D	8	C01551	ISFD (INOP)

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

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ILF 151, 518, 531-533, 535, 537, 552-554, 560, 571-577, 671, 672, 686, 707-710, 803, 808-811, 813, 821, 822, 831, 836, 837

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3

1) DBC Output Breaker

ILF 308, 310, 314, 315, 317, 318, 323, 331-399, 561, 562, 569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4-1

1) DBC Output Breaker

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

D. Related Data

(1) SSM 34-24-15

(2) WDM 34-24-15

E. Initial Evaluation

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 708-710			
---	---	C01551	ISFD

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552, 554, 560-562, 569, 571, 572, 574-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707, 803, 808, 809, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

D	8	C01551	ISFD

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 553, 573, 810, 811			
D	8	C01551	ISFD (INOP)

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

ILF 151, 518, 531-533, 535, 537, 552-554, 560, 571-577, 671, 672, 686, 707-710, 803, 808-811, 813, 821, 822, 831, 836, 837

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3

1) DBC Output Breaker

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ILF 308, 310, 314, 315, 317, 318, 323, 331-399, 561, 562, 569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4-1

1) DBC Output Breaker

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(2) If the Integrated Standby Flight Display shows, then there was an intermittent problem.

(3) If the Integrated Standby Flight Display is blank, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Integrated Standby Flight Display, N226. These are the tasks:

- Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,
- Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the installation task for the Integrated Standby Flight Display is satisfactory and the display shows, then you corrected the problem.

(b) If the Integrated Standby Flight Display is blank, then continue.

(2) Replace the ISFD Dedicated Battery System, M2100. These are the tasks:

- ISFD Dedicated Battery Charger Removal, AMM TASK 34-24-03-000-801,
- ISFD Dedicated Battery Charger Installation, AMM TASK 34-24-03-400-801

(a) If the test in the installation task for the ISFD Dedicated Battery System is satisfactory and the Integrated Standby Flight Display shows, then you corrected the problem.

(b) If the Integrated Standby Flight Display is blank, then continue.

(3) Do this check of the wiring between the circuit breaker C1551 and the Integrated Standby Flight Display, N226 as follows:

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

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 708-710			
---	---	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552, 554, 560-562, 569, 571, 572, 574-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707, 803, 808, 809, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			
D	8	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 553, 573, 810, 811			
D	8	C01551	ISFD (INOP)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ILF 553, 573, 810, 811 (Continued)

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Remove the Integrated Standby Flight Display. This is the task: Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801.

(c) Remove the ISFD Dedicated Battery System. This is the task: ISFD Dedicated Battery Charger Removal, AMM TASK 34-24-03-000-801.

(d) Do a wiring check as follows (WDM 34-24-15):

D10853	D11281
pin D	pin 9

D11281	Circuit Breaker
pin 6	C01551

1) Repair the problems that you find and continue.

(e) Re-install the ISFD Dedicated Battery System, M2100. This is the task: ISFD Dedicated Battery Charger Installation, AMM TASK 34-24-03-400-801.

(f) Re-install the Integrated Standby Flight Display, N226. This is the task: Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

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

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 708-710			
---	---	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552, 554, 560-562, 569, 571, 572, 574-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707, 803, 808, 809, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			
D	8	C01551	ISFD
ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999			

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
ILF 553, 573, 810, 811			
D	8	C01551	ISFD (INOP)

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(h) If the test in the installation task for the Integrated Standby Flight Display is satisfactory and the display shows, then you corrected the problem.

END OF TASK

Lampiran 7 Aircraft Maintenance Manual Task 34-24-02-000-801

INTEGRATED STANDBY FLIGHT DISPLAY - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) A removal of the integrated standby flight display.
      (2) An installation of the integrated standby flight display.

TASK 34-24-02-000-801

2. Integrated Standby Flight Display Removal
(Figure 401)

A. References

Reference	Title
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)

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
SPL-12596	Tool - Extracting **737-600, -700, -800** Part #: F1402369 Supplier: F9111

C. Location Zones

Zone	Area
211	Flight Compartment - Left

D. Removal Procedure

SUBTASK 34-24-02-860-001

(1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:

ILF 151, 518, 531-533, 535, 537, 552-554, 560, 571-577, 671, 672, 686, 707-710, 803, 808-811, 813, 821, 822, 831, 836, 837

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3:
1) DBC Output breaker

ILF 308, 310, 314, 315, 317, 318, 323, 331-399, 561, 562, 569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4-1:
1) DBC Output breaker

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 34-24-02-860-020

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

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	9	C00331	PANEL & INSTR 28V PRI CAPT & CTR
D	8	C00701	EMER PANEL LTG

SUBTASK 34-24-02-020-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE INTEGRATED STANDBY FLIGHT DISPLAY. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE INTEGRATED STANDBY FLIGHT DISPLAY.

(3) Remove the integrated standby flight display [3]:

(a) Loosen, but do not remove, the two adjustment screws [1] adjacent to the integrated standby flight display [3] until the integrated standby flight display [3] can be removed.

1) If necessary, push the two adjustment screws to release the ISFD from the mount clamp.

CAUTION DO NOT USE THE BARO KNOB TO PULL THE DISPLAY [3] FROM THE INSTRUMENT PANEL. DAMAGE TO THE DISPLAY [3] CAN OCCUR IF THE BARO KNOB IS PULLED DURING REMOVAL.

CAUTION CAREFULLY PULL THE DISPLAY [3] FROM THE INSTRUMENT PANEL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE ELECTRICAL CABLE AND THE HOSES ON THE REAR OF THE DISPLAY [3].

(b) Use the ISFD extracting tool, SPL-12596 to pull the integrated standby flight display [3] from the instrument panel until you can get access to the electrical connector [4], pitot hose [5] and static hose [6].

(c) If the integrated standby flight display [3] is not easy to remove, loosen the two mounting screws [2] to make the removal easier.

(d) If necessary, remove the adjacent coverplate for more access to disconnect the electrical and pneumatic connectors.

CAUTION MAKE SURE THAT THE PITOT-STATIC SYSTEM IS AT AMBIENT PRESSURE BEFORE YOU DISCONNECT THE PITOT HOSE [5] AND THE STATIC HOSE [6]. IF THE PITOT-STATIC SYSTEM IS NOT AT AMBIENT PRESSURE, DAMAGE TO THE DISPLAY [3] CAN OCCUR.

(e) Disconnect the pitot hose [5] and static hose [6] from the integrated standby flight display [3].

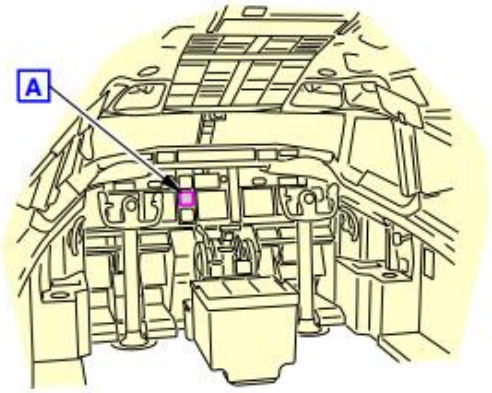
(f) Disconnect the electrical connector [4].

(g) Remove the integrated standby flight display [3].

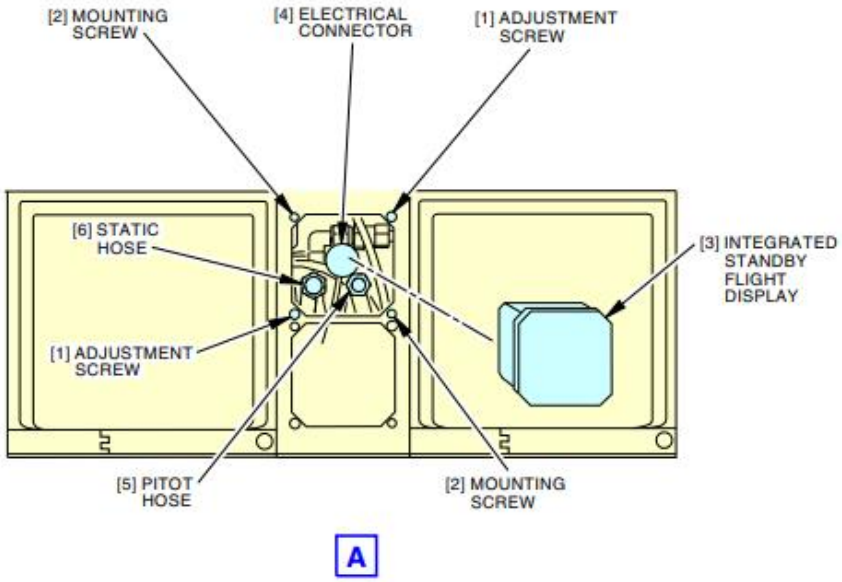
(h) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details



FLIGHT COMPARTMENT



M23055 S0006576690_V2

Integrated Standby Flight Display Installation
Figure 401/34-24-02-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Lampiran 8 Aircraft Maintenance Manual Task 34-24-02-400-801

TASK 34-24-02-400-801

3. Integrated Standby Flight Display Installation

(Figure 401)

A. References

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
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)

B. Consumable Materials

Reference	Description	Specification
A00270	Compound - Threadlocking, Low-strength - Loctite 222	
A50212	Compound - Threadlocking, Low-strength - Loctite 222MS	MIL-S-46163A, ASTM D5363

C. Location Zones

Zone	Area
211	Flight Compartment - Left

D. Installation Procedure

SUBTASK 34-24-02-860-002

(1) Make sure that this circuit breaker is open:

ILF 151, 518, 531-533, 535, 537, 552-554, 560, 571-577, 671, 672, 686, 707-710, 803, 808-811, 813, 821, 822, 831, 836, 837

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3:

1) DBC Output Breaker

ILF 308, 310, 314, 315, 317, 318, 323, 331-399, 561, 562, 569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4-1:

1) DBC Output Breaker

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

SUBTASK 34-24-02-420-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE INTEGRATED STANDBY FLIGHT-DISPLAY (ISFD) DEDICATED BATTERY-CHARGER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ISFD DEDICATED BATTERY-CHARGER.

(2) Install the integrated standby flight display [3]:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

(b) Examine the electrical connector [4] for bent or broken pins.

(c) Connect the electrical connector [4] at the rear of the integrated standby flight display [3].

CAUTION MAKE SURE THAT THE PITOT-STATIC SYSTEM IS AT AMBIENT PRESSURE BEFORE YOU CONNECT THE PITOT HOSE AND STATIC HOSE TO THE INTEGRADED STANBY FLIGHT DISPLAY, IF PITOT-STATIC SYSTEM IS NOT AT AMBIENT PRESSURE, DAMAGE TO THE DISPLAY CAN OCCUR.

(d) Connect the pitot hose [5] and static hose [6] to the integrated standby flight display [3].

(e) Do a visual inspection to make sure the pitot-static system hose connections and quick-disconnect fittings are locked in the sealed position.

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

(f) If you loosened the mounting screws, apply Loctite 222MS compound, A50212, or Loctite 222 compound, A00270, to the threads of the mounting screws [2].

(g) Install the integrated standby flight display [3] into the instrument panel.

1) Make sure that the ISFD is seated all the way into the panel opening. And pushed tight against the panel face with no gaps between the instrument bezel and the panel face.

(h) Torque the two adjustment screws [1] adjacent to the integrated standby flight display [3] to 4 in-lb (5 kg-cm) - 9 in-lb (10 kg-cm).

(i) If you loosened the mounting screws, torque the two mounting screws [2] to 4 in-lb (5 kg-cm) - 9 in-lb (10 kg-cm).

(j) Do a visual inspection to make sure that the ISFD is properly fitted in its clamp and aligned with the cockpit panel.

(k) Install the coverplate if previously removed.

SUBTASK 34-24-02-860-021

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

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	9	C00331	PANEL & INSTR 28V PRI CAPT & CTR
D	8	C00701	EMER PANEL LTG

SUBTASK 34-24-02-710-003

(4) Do the ISFD installation test.

E. ISFD Installation Test

SUBTASK 34-24-02-860-004

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

SUBTASK 34-24-02-860-019

(2) 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

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 34-24-02-700-007

CAUTION: AIRPLANES WITH ISFD S231A120-1; DO NOT MOVE THE AIRPLANE WHILE THE ISFD SHOWS THE YELLOW "ATT" AND "INIT90S" MESSAGES. IF YOU MOVE THE AIRPLANE DURING THE ISFD SYSTEM POWER-UP AND INITIALIZATION ALIGNMENT, THE ISFD CAN SHOW INCORRECT ATTITUDE DATA WITH NO ATT FLAG OR MESSAGE.

(3) Close this circuit breaker and remove the DO-NOT-CLOSE tag:

ILF 151, 518, 531-533, 535, 537, 552-554, 560, 571-577, 671, 672, 686, 707-710, 803, 808-811, 813, 821, 822, 831, 836, 837

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3:

1) DBC Output Breaker

ILF 308, 310, 314, 315, 317, 318, 323, 331-399, 561, 562, 569, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4-1:

1) DBC Output Breaker

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

SUBTASK 34-24-02-700-001

(4) Make sure that the display shows the following flags in approximately 15 seconds after power up:

(a) SPD flag

(b) ATT flag

(c) ALT flag

(d) INIT 90S flag.

SUBTASK 34-24-02-710-001

(5) Make sure that the following flags and indications show in approximately 15 to 90 seconds after power up:

(a) ATT flag

(b) INIT 90S flag

(c) Airspeed indication with no SPD flag

(d) Altitude indication with no ALT flag.

SUBTASK 34-24-02-710-002

(6) Make sure that the following is displayed on the ISFD after approximately 90 seconds:

(a) Attitude (normal) display with the following indications with no flags:

1) Fixed aircraft symbol

2) Roll scale

3) Roll index

4) Pitch scale.

NOTE: To restart the initialization, push and release the ATT RST button on the face of the ISFD.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 34-24-02-820-001

(7) Make sure that the attitude data on the ISFD is the same as the captain's attitude display ± 1 degree.

(a) If the attitude on the ISFD is out of tolerance, adjust the adjustment screws [1] as necessary.

SUBTASK 34-24-02-700-003

(8) Push APP and HP/IN, on the face of the ISFD, for approximately two seconds.

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999; AIRPLANES WITH THE INTEGRATED STANDBY FLIGHT DISPLAY (P/N C16221XXXX)

SUBTASK 34-24-02-700-004

(9) Push the + select key next to <TESTS.

SUBTASK 34-24-02-700-005

(10) Push the select key next to <FUNCTIONAL TEST (110s).

NOTE: The TEST screen will display IN PROGRESS 110s.

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999; AIRPLANES WITH THE INTEGRATED STANDBY FLIGHT DISPLAY (P/N C16786XXXX)

SUBTASK 34-24-02-700-012

(11) Use the BARO knob to select FUNCTIONAL TESTS on the maintenance page.

(a) To move the menu selection box, turn the knob in either direction.

(b) To select, press the knob.

NOTE: The TEST screen will display IN PROGRESS 110s.

ILF 151, 308, 310, 314, 315, 317, 318, 323, 331-399, 518, 531-533, 535, 537, 552-554, 560-562, 569, 571-577, 581, 583, 585, 588-590, 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 671, 672, 686, 691-699, 707-710, 803, 808-811, 813, 821, 822, 831, 833-838, 842, 851, 852, 857, 858, 947, 948, 968-973, 980-999

SUBTASK 34-24-02-700-006

(12) Make sure that the TEST result displays TEST OK.

SUBTASK 34-24-02-700-008

(13) Push and release the RST (reset) button.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Lampiran 9 Fault Isolation Manual 33-20 TASKS 806

806. BSI Light Power Fault - BSI Window Lights Do Not Come ON - Fault Isolation

A. Description

(1) There are three 115V AC Power break-in points above the Sidewall Panels on each side of the airplane (STA 419, STA 616, and STA 866).

(2) At each Power break-in point, two sets of Window Lights are connected to the 115V AC.

(a) Each set of Window Lights can have maximum six window lights connected in series to the 115V AC Power Bus.

(b) There are two 115V AC Power Bus directions for the two sets of window lights (forward direction and aft direction).

(3) If a Window Light does not have 115V AC Power:

- The Window Light has an inoperative Internal Power Supply.
- The previous Window Light in the set has an Inoperative Internal Power Supply.

B. Possible Causes

(1) Wiring

(2) Window Light Assembly

C. Related Data

(1) Window Lights:

- WDM 33-21-XX
- SSM 33-21-XX

D. Initial Evaluation

(1) Cycle the Cabin/Utility Switch.

(2) Make sure that the Attendant Control Panel (ACP) Display is activated.

(a) To activate it, touch the opposite corners of the display sequentially within two seconds.

(3) If necessary, add the password to get access to the ACP.

(4) At the ACP, set the lights to the ON mode.

NOTE: Use the ACP Maintenance Display. On the ACP Display, touch the MAINTENANCE Tab. When the ACP changes to the Maintenance Display, touch LAMP TESTS.

(a) If the light comes ON, then there was an intermittent fault.

1) Set the lights to their usual mode.

(b) If the light does not come ON, then do the Fault Isolation Procedure below.

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E. Fault Isolation Procedure

(1) Do a wiring check at the light (WDM 33-21-XX , SSM 33-21-XX).

(a) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Cycle the Cabin/Utility Switch.

3) At the ACP, do a test of the light in the Passenger Seating Area. This is the task: Passenger Compartment Lights - Operational Test, AMM TASK 33-20-00-710-804-001.

a) If the light operates correctly, then you corrected the problem.

<1> Set the lights to their usual mode.

b) If the light does not operate correctly, then continue.

(b) If you do not find a problem with the wiring, then continue.

(2) Do a voltage check at the light as follows (WDM 33-21-XX , SSM 33-21-XX):

(a) Identify the Window Light Assembly closet to the 115V AC Power Bus that does not come ON.

(b) Disconnect the connector that supplies 115V AC to the Window Light Assembly.

(c) Do a Voltage check for 115V AC from pin B to pin A of the connector.

1) If you find 115V AC, do these steps:

a) Replace the Window Light Assembly.

WINDOW LIGHTS - MAINTENANCE PRACTICES, AMM 33-21-00/201

b) Load the software to the new Light Assembly. This is the task: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

c) At the ACP, do a test of the light in the applicable Passenger Seating Area. This is the task: Passenger Compartment Lights - Operational Test, AMM TASK 33-20-00-710-804-001.

<1> If the lights operate correctly, then you corrected the problem. Set the lights to their usual mode.

2) If you do not find 115V AC, do these steps:

a) Replace the LRU before the Window Light Assembly.

b) Load the software to the new LRU. This is the task: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

c) At the ACP, do a test of the light in the applicable Passenger Seating Area. This is the task: Passenger Compartment Lights - Operational Test, AMM TASK 33-20-00-710-804-001.

<1> If the lights operate correctly, then you corrected the problem. Set the lights to their usual mode.

——— END OF TASK ———

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Lampiran 10 Aircraft Maintenance Manual Task 33-21-00-960-804

ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999

TASK 33-21-00-960-804

11. Window Light - LED Light Assembly Replacement

(Figure 207)

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
41	Light assembly	33-21-51-74-205	ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999
		33-21-51-74-210	ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999
		33-21-51-74-215	ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999
		33-21-51-74-220	ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999
		33-21-51-74-225	ILF 592-599, 601-603, 606, 607, 610-615, 620, 625-627, 691-699, 833-835, 838, 980-999

C. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right
200	Upper Half of Fuselage
211	Flight Compartment - Left

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Window LED Light Assembly Replacement

SUBTASK 33-21-00-860-011

(1) Make sure that electrical power is supplied to the airplane, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

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SUBTASK 33-21-00-860-012

(2) Do these steps at the applicable attendant control panel:

(a) Make sure that the attendant control panel display is activated.

1) To activate it, touch the opposite corners of the display sequentially within two seconds.

(b) If necessary, input the password to get access to the attendant control panel.

(c) On the attendant control panel display, touch the Lighting tab.

(d) Below the Passenger Seating Area, touch the OFF button.

SUBTASK 33-21-00-010-004

(3) To get access to the P92 panel, open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 33-21-00-860-013

WARNING

WHEN YOU OPEN THE P91 AND P92 PANELS, MAKE SURE THAT THE OUTER DOOR STAYS AS OPEN AS POSSIBLE. IF THE OUTER DOOR TURNS IN, THE ATTACHED DOOR COMPONENTS COULD TOUCH THE INNER DOOR COMPONENTS. THIS CAN CAUSE AN ARC CONDITION WHEN YOU SUPPLY POWER. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

WARNING

DO NOT TOUCH THE CONDUCTORS IN THE P91 AND P92 PANELS. BE CAREFUL WHEN YOU GET ACCESS TO THE CIRCUIT BREAKERS ON THE INNER SIDE OF THE P91 AND P92 PANELS (ROW F). IF IT IS POSSIBLE, REMOVE AIRPLANE ELECTRICAL POWER FIRST. THE P91 AND P92 PANELS HAVE HIGH VOLTAGES AND CURRENTS. ELECTRICAL VOLTAGE AND CURRENT CAN KILL YOU OR CAUSE INJURIES.

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

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
E	11	C00594	WINDOW LIGHT RIGHT
E	12	C00776	WINDOW LIGHT LEFT

SUBTASK 33-21-00-040-005

CAUTION

DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(5) Before you touch the light assembly [41], do the procedure for devices that are sensitive to electrostatic discharge (TASK 20-40-12-000-802).

SUBTASK 33-21-00-020-001

(6) Do these steps to remove the light assembly [41]:

(a) Do these steps to remove the lens [45]:

1) Remove the screw [44] and retainer [43] from each end of the lens [45].

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2) Remove the lens [45].

(b) Disconnect the electrical connectors [42] from each end of the light assembly [41].

(c) Remove the light assembly [41].

1) If there is a center mounting bracket, use a flat tool to carefully remove the light assembly [41] from the center mounting bracket.

SUBTASK 33-21-00-040-006

CAUTION DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(7) Before you touch the light assembly [41], do the procedure for devices that are sensitive to electrostatic discharge (TASK 20-40-12-400-802).

SUBTASK 33-21-00-420-001

(8) Do these steps to install the light assembly [41]:

(a) Put the light assembly [41] in position.

1) If there is a center mounting bracket, carefully push the light assembly [41] until it latches onto the mounting bracket.

(b) Connect the connectors [42] from each end of the light assembly [41].

(c) Do these steps to install the lens [45]:

1) Put the lens [45] in position.

2) Install the retainer [43] and screw [44] to each end of the lens [45].

3) Tighten the screws [44] to 12.5 ±2.5 in-lb (1.4 ±0.3 N·m).

SUBTASK 33-21-00-860-014

WARNING WHEN YOU OPEN THE P91 AND P92 PANELS, MAKE SURE THAT THE OUTER DOOR STAYS AS OPEN AS POSSIBLE. IF THE OUTER DOOR TURNS IN, THE ATTACHED DOOR COMPONENTS COULD TOUCH THE INNER DOOR COMPONENTS. THIS CAN CAUSE AN ARC CONDITION WHEN YOU SUPPLY POWER. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

WARNING DO NOT TOUCH THE CONDUCTORS IN THE P91 AND P92 PANELS. BE CAREFUL WHEN YOU GET ACCESS TO THE CIRCUIT BREAKERS ON THE INNER SIDE OF THE P91 AND P92 PANELS (ROW F). IF IT IS POSSIBLE, REMOVE AIRPLANE ELECTRICAL POWER FIRST. THE P91 AND P92 PANELS HAVE HIGH VOLTAGES AND CURRENTS. ELECTRICAL VOLTAGE AND CURRENT CAN KILL YOU OR CAUSE INJURIES.

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

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
E	11	C00594	WINDOW LIGHT RIGHT
E	12	C00776	WINDOW LIGHT LEFT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 33-21-00-410-004

(10) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 33-21-00-860-023

(11) AIRPLANES WITH P4 SOFTWARE;

For loading data from the ACP to the LED lighting assemblies, do the steps that follow:

(a) Press the "ACP to LRUs" button.

1) The "ACP to LRUs" button should highlight.

(b) Wait for the data load to finish.

(c) Check to make sure that the Address, Scene, and Zone information are downloaded without errors.

SUBTASK 33-21-00-860-036

(12) AIRPLANES WITH P5 SOFTWARE;

For Phase 2 Data Load, do the steps that follow:

(a) Push the "Phase 2 Data Load" button.

NOTE: When the user selects the Phase 2 Data Load button, the screen will show the LSAP selection table and control window. The current configuration is selected at default. The user can select another LSAP to load into the ACP's and the light LRU's.

(b) Select the LSAP in the Mass Storage Area.

(c) Push the "Start" button.

NOTE: Once the process has started, the result window will show the current progress of the file transfer. The status bar will show the approximate percent complete as the process executes.

SUBTASK 33-21-00-710-004

(13) Do a test of the new light assembly:

(a) Make sure that the attendant control panel display is activated. To activate it, touch the opposite corners of the display sequentially within two seconds.

(b) If necessary, input the password to get access to the attendant control panel.

(c) Make sure the CAB/UTIL switch at the P5-13 panel is set to the ON position.

(d) On the attendant control panel display, touch the Lighting tab.

(e) Below the Passenger Seating Area, touch the White BRIGHT button.

1) Make sure that the light comes on brightly.

(f) Touch the White MEDIUM button.

1) Make sure that the light becomes medium.

(g) Touch the Boarding/Deplane button.

1) Make sure that the light color in the passenger compartment is equivalent to the light type shown below the General Lighting Layout on the attendant control panel display.

NOTE: The light can take at least 15 seconds to change.

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(h) Touch the OFF button.

1) Make sure that the light goes off.

(i) If it is not necessary, set the CAB/UTIL switch at the P5-13 panel to the OFF position.

SUBTASK 33-21-00-860-016

(14) If electrical power is not necessary, then do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

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Lampiran 11 Taskcard 24-010-02-01

ILF

BOEING

737-600/700/800/900
TASK CARDS

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		IDG OIL - RIGHT IDG			24-010-02-01
DATE	TASK				RELATED CARD
	SERVICE				W-24-040-02-01
TAIL NUMBER	WORK AREA	VERSION	THRESHOLD	REPEAT	APPLICABILITY
	RIGHT ENGINE	1.1	1800 FH	1800 FH	AIRPLANE: ALL / ENGINE: ALL
STATION	SKILL				
	ENGIN				
		ACCESS			ZONE
		423			421

Change right IDG oil.

A. References

Reference	Title
AMM 12-13-21-600-801	IDG Servicing (Oil Fill) (P/B 301)
AMM 20-10-44-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
AMM 24-11-41-000-801	IDG Scavenge and Charge Filter - Removal (P/B 201)
AMM 24-11-41-400-801	IDG Scavenge and Charge Filter - Installation (P/B 201)
AMM 71-00-00-700-810-F00	Test 2 - Dry Motor Leak Test (P/B 501)
AMM 71-00-00-700-821-F00	Dry Motor the Engine (P/B 201)
AMM 71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
AMM 71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00068	Oil - Aircraft Turbine Engine, Synthetic Base	MIL-PRF-23699 Class STD (Standard)
D00071	Oil - Aircraft Turbine Engine, Synthetic Base	MIL-PRF-7808 Grade 3
D50369	Oil - Aircraft Turbine Engine, Synthetic Base	MIL-PRF-23699 Class HTS (High Thermal Stability)
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G51490	Kit - Safety Cable, 321 CRES - 0.032 Inch (0.81 mm) Diameter, (Contains both Cable and Ferrule), 18 Inches Long	BACC13AT3K18, AMS 5689
G51526	Kit - Safety Cable, 321 CRES - 0.022 Inch (0.56 mm) Diameter, (Contains both Cable and Ferrule), 18 Inches Long	BACC13AT2K18, AMS5689

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.

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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				24-010-02-01

Reference	Description
COM-1529	Gun - Oil Replenishment, Portable, Manual, Hand Held **737-600, -700, -800** Part #: 7011 Supplier: K6057 Opt Part #: UZ/7/1826 Supplier: K6057
COM-1537	Dispenser - Servicing, Engine Oil **737-600, -700, -800** Part #: 7011 Supplier: K6057 Part #: 7036 Supplier: K6057 Part #: BOB02 Supplier: D2029 Part #: BOB05 Supplier: D2029 Part #: BOB20 Supplier: D2029 Part #: MODEL 150 Supplier: 94861 Part #: Model 250 Supplier: 94861 Part #: PF53481-3P Supplier: 94861 Part #: PF53481-5PWS Supplier: 94861 Part #: PF53481-8PWS Supplier: 94861 Part #: PF55451-2WS Supplier: 94861 Part #: PF55451-7WS Supplier: 94861 Opt Part #: 150-3 Supplier: 94861 Opt Part #: PF53361-2PWS Supplier: 94861 Opt Part #: PF53361-8PWS Supplier: 94861 Opt Part #: UZ/7/1826 Supplier: K6057 Opt Part #: WF150-1 Supplier: 94861 Opt Part #: WF174410 Supplier: 94861
COM-1542	Dispenser - Oil, One Quart (1 Liter) Container **737-600, -700, -800** Part #: 7011 Supplier: K6057 Part #: 7036 Supplier: K6057 Part #: MODEL 150 Supplier: 94861 Opt Part #: UZ/7/1826 Supplier: K6057 Opt Part #: WF150-1 Supplier: 94861 Opt Part #: WF174410 Supplier: 94861
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				24-010-02-01

MECH | INSP

TASK 12-13-21-600-802

1. IDG Oil Change

(Figure 1)

A. General

(1) This task removes the oil from the Integrated Drive Generator (IDG) system and replaces it with new oil.

(2) If IDG oil is being replaced because of possible contamination, you must do the IDG Oil Change, operate the engine, and repeat the IDG Oil Change.

(3) If IDG oil is being replaced because of different type or brand of oil, you must do the IDG Oil Change, operate the engine, and repeat the IDG Oil Change.

(4) The oil volume for the IDG and external cooling circuit is as follows:

(a) IDG oil volume - 6.82 qt (6450 cc)

(b) External cooling circuit oil volume - 2.16 qt (2040 cc)

(c) Total oil volume - 8.97 qt (8490 cc).

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	O-ring	24-11-11-50-025	ILF ALL

C. Prepare for the IDG Oil Change

SUBTASK 12-13-21-010-002

(1) Do this task: Open the Fan Cowl Panels, AMM TASK 71-11-02-010-801-F00.

D. IDG Oil Change

SUBTASK 12-13-21-610-002

WARNING DO NOT TOUCH THE COMPONENTS OF THE OIL SYSTEM IF THE ENGINE IS HOT. THESE COMPONENTS STAY HOTTER THAN OTHER COMPONENTS. HOT COMPONENTS CAN BURN YOU.

WARNING DO NOT LET HOT OIL GET ON YOUR SKIN. PUT ON CLOTHES, GOGGLES, AND EQUIPMENT FOR PROTECTION OR LET THE ENGINE BECOME COOL. HOT OIL CAN BURN YOU.

(1) Change the IDG oil as follows:

WARNING MAKE SURE THAT YOU PUSH THE PUSH-TO-VENT VALVE. IF YOU DO NOT DO THIS, IT COULD CAUSE HOT OIL TO SPRAY AND CAN CAUSE INJURY TO PERSONS.

(a) Push the PUSH-TO-VENT VALVE for a minimum of 15 seconds.

(b) Place an oil resistant container (5 gal)(19 Liter), STD-1055, below the IDG to catch the oil.

(c) Remove the lockwire from the case drain plug [1] on the IDG.

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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				24-010-02-01

MECH	INSP

(d) Remove the case drain plug [1], and let the oil drain into the oil resistant container (5 gal)(19 Liter), STD-1055.

(e) Remove the used O-ring [2] from the case drain plug [1] and discard it.

(f) Replace the IDG scavenge and charge filters, do these steps:

NOTE: If the oil change procedure is performed as a part of the oil/brand switch, the filter removed during first round of oil flush, can be re-used for this first round provided that:

A. After filter is removed it is drained and no metallic particulates are found.

B. The filter and its O-ring are not damaged and the DPI is not extended.

NOTE: If metal particles are found in the removed filter then generator will need to be removed, oil flushed from the circuit, and a new generator installed.

1) Do this task: IDG Scavenge and Charge Filter - Removal, AMM TASK 24-11-41-000-801

2) Do this task: IDG Scavenge and Charge Filter - Installation, AMM TASK 24-11-41-400-801.

(g) Remove the pressure fill cover from the pressure fill fitting on the IDG.

(h) Connect the pressure fill hose from the service equipment, engine oil servicing dispenser, COM-1537, dispenser, COM-1542, or oil replenishment gun, COM-1529, to the pressure fill fitting on the IDG.

CAUTION

DO NOT MIX OILS OF DIFFERENT TYPES OR BRAND NAMES. SOME OILS WILL CHEMICALLY CHANGE WHEN YOU MIX THEM. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(i) Use the service equipment (maximum 40 psi (276 kPa)) to flush the IDG external cooling circuit with one of the oil types listed below:

1) oil, D00071
2) oil, D00068
3) oil, D50369.

(j) Pump oil into the IDG until approximately 3 qt (2839 cc) - 4 qt (3785 cc) of oil drains from the IDG drain port.

NOTE: The 3 qt (2839 cc) - 4 qt (3785 cc) does not include the oil that was drained when the drain plug was removed.

CAUTION

USE ONLY THE M83485 O-RING ON THE IDG INPUT SHAFT WHEN YOU USE HIGH THERMAL STABILITY (HTS) OIL COMPATIBLE TO MILSPEC-23699 IN THE ENGINE (FOR EXAMPLE: BP/EASTMAN TURBO OIL 2197, AEROSHELL TURBINE OIL 560, MOBIL JET OIL 254). DO NOT USE OTHER O-RING STANDARDS (FOR EXAMPLE: M83248 OR AS3209) WITH HTS OIL. IF YOU DO, IT WILL CAUSE A DECREASE IN O-RING LIFE, ENGINE OIL LEAKAGE, AND A POSSIBLE ENGINE SHUTDOWN.

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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				24-010-02-01

(CAUTION PRECEDES)

MECH | INSP

CAUTION DO NOT MIX OILS OF DIFFERENT TYPES OR BRAND NAMES. SOME OILS WILL CHEMICALLY CHANGE WHEN YOU MIX THEM. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(k) Lubricate the new O-ring [2] with one of the oil types listed below:

1) oil, D00071
2) oil, D00068
3) oil, D50369

(l) Install the new O-ring [2] onto the case drain plug [1].

(m) Install the case drain plug [1] on the IDG.

(n) Tighten the case drain plug [1] to 65 ±10 in-lb (7 ±1 N·m).

(o) Install MS20995C32 lockwire, G01048, or safety cable kit, G51526, or safety cable kit, G51490 (AMM TASK 20-10-44-400-801).

(p) Do this task: IDG Servicing (Oil Fill), AMM TASK 12-13-21-600-801.

SUBTASK 12-13-21-610-005

(2) If the IDG oil is replaced because of possible contamination, or you changed the type or brand of oil, do these steps:

(a) Do this task: Dry Motor the Engine, AMM TASK 71-00-00-700-821-F00.

WARNING DO NOT TOUCH THE COMPONENTS OF THE OIL SYSTEM IF THE ENGINE IS HOT. THESE COMPONENTS STAY HOTTER THAN OTHER COMPONENTS. HOT COMPONENTS CAN BURN YOU.

WARNING DO NOT LET HOT OIL GET ON YOUR SKIN. PUT ON CLOTHES, GOGGLES, AND EQUIPMENT FOR PROTECTION OR LET THE ENGINE BECOME COOL. HOT OIL CAN BURN YOU.

(b) Change the IDG oil as follows:

WARNING MAKE SURE THAT YOU PUSH THE PUSH-TO-VENT VALVE. IF YOU DO NOT DO THIS, IT COULD CAUSE HOT OIL TO SPRAY AND CAN CAUSE INJURY TO PERSONS.

1) Push the PUSH-TO-VENT VALVE for a minimum of 15 seconds.
2) Place an oil resistant container (5 gal)(19 Liter), STD-1055, below the IDG to catch the oil.
3) Remove the lockwire from the case drain plug [1] on the IDG.
4) Remove the case drain plug [1], and let the oil drain into the oil resistant container (5 gal)(19 Liter), STD-1055.

NOTE: It is not necessary to replace the O-ring again if there is no damage.

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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 24-010-02-01

MECH | INSP

5) Replace the IDG scavenge and charge filters, do these steps:
   a) Do this task: IDG Scavenge and Charge Filter - Removal, AMM TASK 24-11-41-000-801
   b) Do this task: IDG Scavenge and Charge Filter - Installation, AMM TASK 24-11-41-400-801.
6) Remove the pressure fill cover from the pressure fill fitting on the IDG.
7) Connect the pressure fill hose from the service equipment, engine oil servicing dispenser, COM-1537, dispenser, COM-1542, or oil replenishment gun, COM-1529, to the pressure fill fitting on the IDG.

CAUTION DO NOT MIX OILS OF DIFFERENT TYPES OR BRAND NAMES. SOME OILS WILL CHEMICALLY CHANGE WHEN YOU MIX THEM. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

8) Use the service equipment (maximum 40 psi (276 kPa)) to flush the IDG external cooling circuit with one of the oil types listed below:
   a) oil, D00071
   b) oil, D00068
   c) oil, D50369
9) Pump oil into the IDG until approximately 3 qt (2839 cc) - 4 qt (3785 cc) of oil drains from the IDG drain port.
   NOTE: The 3 qt (2839 cc) - 4 qt (3785 cc) does not include the oil that was drained when the drain plug was removed.
10) Install the case drain plug [1] on the IDG.
11) Tighten the case drain plug [1] to 65 ±10 in-lb (7 ±1 N·m).
12) Install MS20995C32 lockwire, G01048, or safety cable kit, G51526, or safety cable kit, G51490 (AMM TASK 20-10-44-400-801).
13) Do this task: IDG Servicing (Oil Fill), AMM TASK 12-13-21-600-801.

SUBTASK 12-13-21-610-006

(3) Do this task: Test 2 - Dry Motor Leak Test, AMM TASK 71-00-00-700-810-F00.

E. Put the Airplane Back to Its Usual Condition

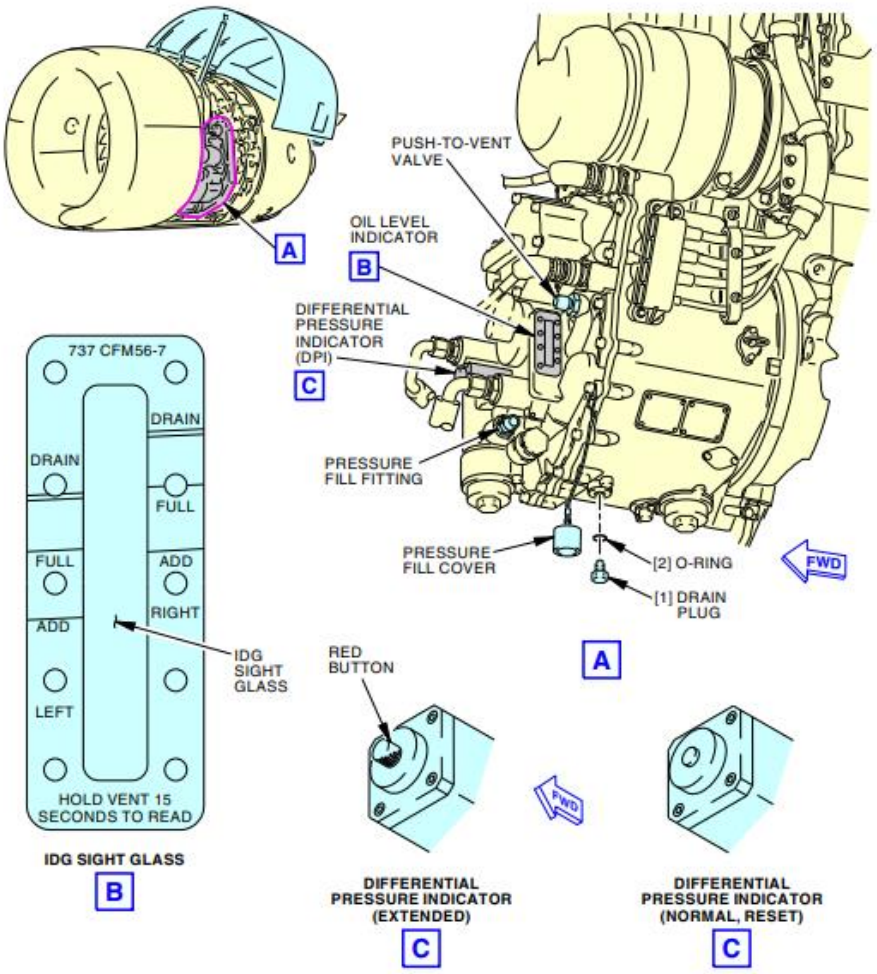
SUBTASK 12-13-21-010-003

(1) Do this task: Close the Fan Cowl Panels, AMM TASK 71-11-02-410-801-F00.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				24-010-02-01



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Integrated Drive Generator (IDG) Servicing
Figure 1

EFFECTIVITY	SOURCE	
ILF ALL	MRB	IDG OIL - RIGHT IDG

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Lampiran 12 Daily Activity

DAILY ACTIVITY REPORT

NAME : ZAENURI IHSAN W.
N.I.T : 30921029
COURSE :
Competency :

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2	3	4
1	April 1, 2024	Remove Pane-Outer PN. D56027000 120000 QTY 12 EA	
2	April 2, 2024	Cleaning Pane-Outer	
3	April 3, 2024	Instal Pane-Outer PN. D56027000 120000	
4	April 7, 2024	Perform An Internal Zonal Inspection (GV) Of the aft Cargo Compartment - Section 46 and 47 (Port), STA 727 To STA947.5	
5	April 8, 2024	Pre flight Check	
6	April 9, 2024	Replacement Seal Window.	
7.	April 12, 2024	Re Sealant at aft LH Lavatory	
8.	April 13, 2024	Remove FWD Cargo Floor Panel	
9.	April 16, 2024	Right Main Landing Gear Raloration	
10.	April 17, 2024	SPA MAPPING	
11.	April 18, 2024	Cleaning Excess Greases at Main wheel well	
12.	April 19, 2024	Cleaning Excess Greases at Main wheel well	
13.	April 20, 2024	Cleaning Excess Greases at Main wheel well	
14.	April 21, 2024	Applying Corrosion Inhibiting Compound at Main wheel Well	
15.	April 25, 2024	Right Main Landing Gear Restoration	
16.	April 26, 2024	Right Main Landing Gear Restoration.	
17.	April 27, 2024	Left Main Landing Gear Restoration	

DAILY ACTIVITY REPORT

NAME : 2AENURI IHSAN W.
N.I.T : 3042102a
COURSE :
Competency :

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2	3	
	April 28, 2024	Cleaning Parts of MIG	
	April 29, 2024	Cleaning Parts of MIG	
	April 30, 2024	Cleaning Parts of MIG	

DAILY ACTIVITY REPORT

NAME : ZAENURI IHSAN W.
N.I.T : 30921024
COURSE :
Competency :

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2	3	4
1.	May, 4 2024	Replacement Wiadow Light	
2.	May, 5 2024	Replacement filter Nitrogen Generation System	
3.	May, 6 2024	Change Integrated Drive Generator Oil	
4.	May, 7 2024	Main Landing Gear Shock Strut Servicing	
5.	May, 8 2024	Replacement Window Light	
6.	May, 9 2024	Perform Dent Buckle Chart	
7.	May, 13 2024	Remove Cabin floor panel	
8.	May, 14 2024	Lubricate Control Cable	
9.	May, 15 2024	Applying Corrosion Inhibiting Compound	
10.	May, 16 2024	Cleaning flap track fairing	
11.	May, 17 2024	Claning flap track fairing	
12.	May, 18 2024	General Visual Inspection Emergency Exit Door.	
13.	May, 22 2024	Bond Resistance Test Of Connector	
14.	May, 23 2024	Loop Resistance Test of Connector	
15.	May, 24 2024	Cleaning wet floor panel	
16.	May, 25 2024	Cleaning wing to body fairing	
17.	May, 26 2024	Found Retractable Landing Light Cannot Retract	
18.	May, 27 2024	Replacement Window Light	

DAILY ACTIVITY REPORT

NAME : 2AFNURS IHSAN M.
N.I.T : 30421029
COURSE :
Competency :

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2	3	
	May, 31 2024	Lubricate the Left Leading Edge Slat Tracks	

DAILY ACTIVITY REPORT

NAME : ZAENURI IHSAN W.
N.I.T : 30220029
COURSE :
Competency :

No.	Day and Date	Description of Activity	Supervisor Sign and Stamp
1	2	3	4
	June 1, 2024	Replace the "B" Hydraulic System Electric Motor Driven Pump Case Drain filter	
	June 2, 2024	Change Left Integrated Driven Generator Oil	
	June 3, 2024	Change Right Integrated Driven Generator Oil	
	June 4, 2024	Cleaning Main Wheel Well	
	June 5, 2024	Cleaning Main Wheel Well	
	June 9, 2024	Elevator Balance Tab Freeplay check	
	June, 10 2024	Resistance Check of pitot Probe	
	June 11, 2024	Cleaning Nose Wheel Well	
	June 12, 2024	Cleaning Nose wheel well	
	June 18, 2024	Replacement Integrated Standby Flight Display	
	June, 22 2024	Check of Standby pitot System	
	June, 23 2024	Static Discharge Broken of LH Horizontal Stabilizer	