



Using Technology to Disseminate Technical Data

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Outline



- Tech Data
- Perceived Requirement
- Technology
- Demo
- Vision

What is tech data?



- **Currently** any data required to perform a maintenance task at any level of maintenance, e.g.
 - supply and support equipment information
 - tech manuals
 - engineering drawings
 - training
 - other
- **Future** definition should encompass any data required to support the warfighter from flightline maintainers to the Combatant Commanders, e.g.
 - ECPs
 - connectivity to databases like AEMs, maintenance plans, in-service engineering
 - RCM data
 - logistics enabling data, etc.

Tech data issues



- Procurement process deliverables
- Data commonality amongst users
 - Engineers
 - Supply
 - Tech manuals
 - Training
 - Support Equipment
- Compliance to evolving standards, e.g.
 - Advanced Distributed Learning (ADL)
 - Mil Std for technical manuals e.g. MIL-STD-3001
- RCM Exploration feedback
- Timely data updates - configuration/data management

Perceived requirement



- To *support* the warfighter through technology tool(s) bringing all known **logistics, management, and planning** information to **all users** for both support and planning purposes in a **timely manner**.
 - Recognizes the need for different information at different levels, i.e. maintenance technician vs TYCOM requirement.
 - Incorporates all activities which are integrated into the weapon system, i.e. PMA-260, NAWC-LKE, weapons.

Perceived Requirement cont.



- At the **flightline user level**, provide a technology enabling tool to enhance job performance through integration of tech manuals, training, and documentation of both supply and maintenance information.
- At the **CAG/MAG/Wing, TYCOM, I SE and PMA level**, technology should provide access to asset accountability, planning, requirements and overall life cycle support issues.

Technology overview



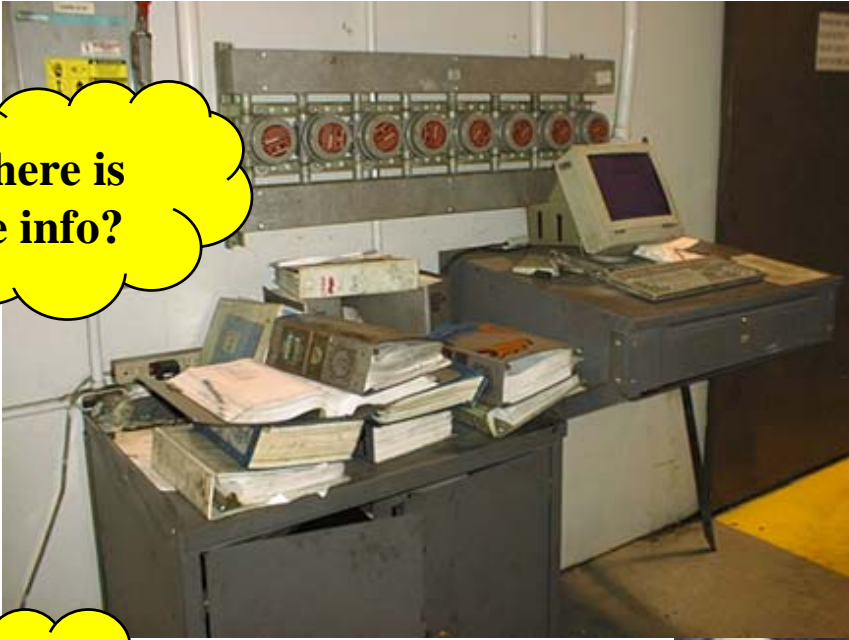
- Open architecture for expandability and maintainability.
- Robust system for easy integration of various data sources.
- Web-based for stand-alone and remote use.
- Web-based for data transfers, configuration management, and reach back to the FST level.

P3 MEPSS™ Development Objective




Reduce operating and support cost by reducing false removals on the EDC

The Performance Crisis



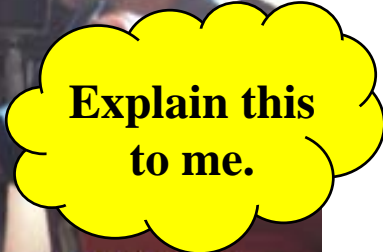
**Where is
the info?**



**I don't
have training
for this task**

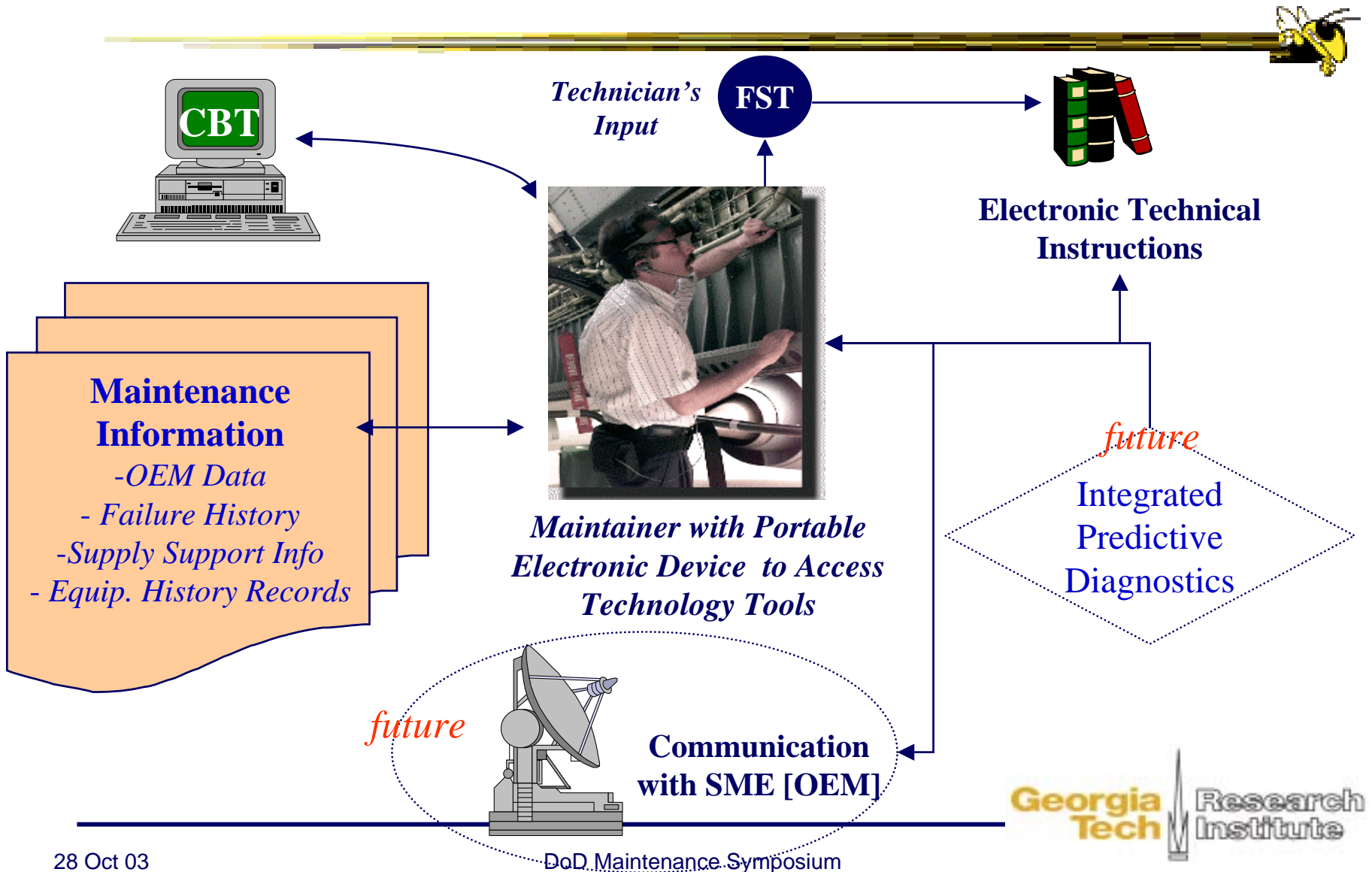


**Where do
I start?**

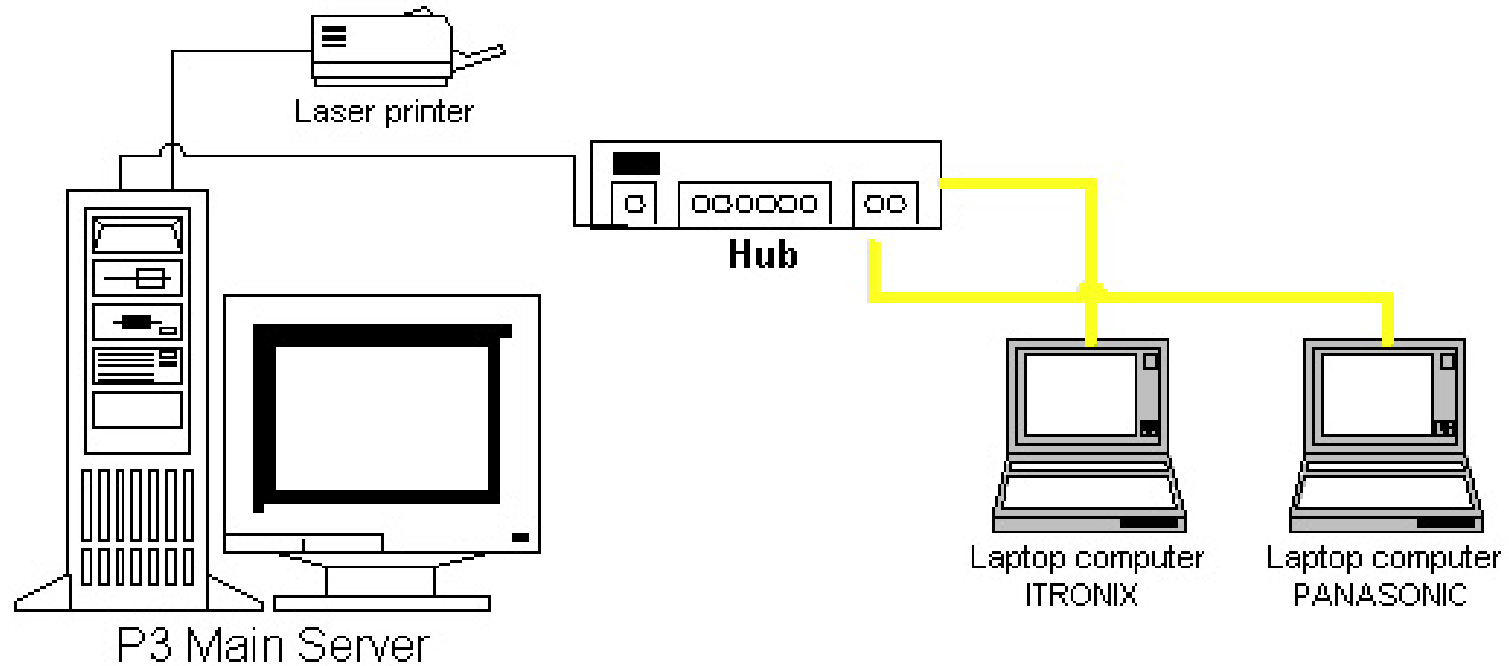


**Explain this
to me.**

Maintainer's Electronic Performance Support System (MEPSS™)



System Architecture



Opening page



- The first page after login and establishment of an account is:

NAVY MEPSS search

PASSDOWNS TRAINING TECHPUBS PARTS TROUBLESHOOT MYACCOUNT

Welcome GT Lafond-Favieres
July 15, 2002 11:33:23

Announcements [\(Modify\)](#)

Use this space to enter announcements for everyone to see. Click the Modify link to edit and/or delete the announcements.

Passdown Record

GT Medlin
2/28/2002 1:24:1

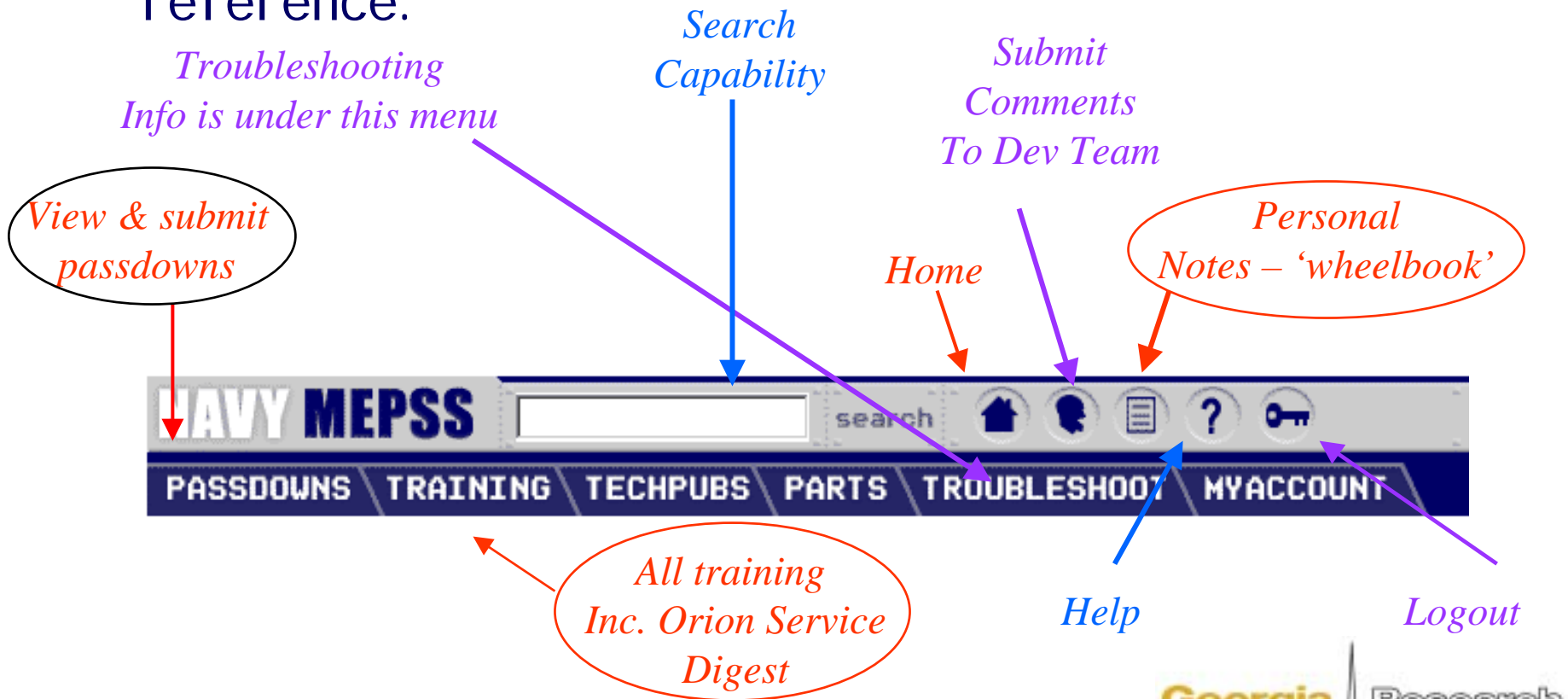
Passdown: #2 EDC PRESSURE LOW LIGHT FLICKERED DURING TAXI. 1QT LOW AND ENGINE 1 QT HIGHER ON POST FLT.
Corrective Action: AFTER FLIGHT, FOUND #2 EDC WAS EMPTY AND A HISTORY OF #2 ENGINE OIL OVER SERVICE IN NALCOMOS. SUSPECT OIL COOLER BAD. PLACED OIL COOLER ON OREDER BY NIGHT SHIFT (NX)

Shows
The 5
Most
Recent
Approved
Passdowns

Main Menu



- The user can go to any section of the menu for reference.



Fault Tree - pull down menu ex.



- Pull down menus for all main menu options

The screenshot shows the NAVY MEPSS website interface. At the top, there is a navigation bar with the logo 'NAVY MEPSS', a search box, and several icons (home, user, list, help, key). Below this is a main menu with options: 'PASSDOWNS', 'TRAINING', 'TECHPUBS', 'PARTS', 'TROUBLESHOOT', and 'MYACCOUNT'. A pull-down menu is open under 'TROUBLESHOOT', listing: 'Fault Tree', 'Common Discrepancies', 'Maintenance Control Checklists', 'View Troubleshooting Tips', 'Submit Troubleshooting Tips', and 'View Unapproved Tips'. The main content area includes a welcome message for 'GT Lafond-Favieres' dated July 15, 2002, an 'Announcements' section, and a 'Passdown Record' table.

Passdown Record	
GT Medlin 2/28/2002 1:24:1	Passdown: #2 EDC PRES 1QT LOW AND ENGINE 1 Corrective Action: AFTEP A HISTORY OF #2 ENGINI SUSPECT OIL COOLER B NIGHT SHIFT (NX)

Fault Tree

- The fault tree was extracted from the multiple publications to simplify the troubleshooting process.
- As the user drills through the fault tree, they are ultimately directed to a publication for reference

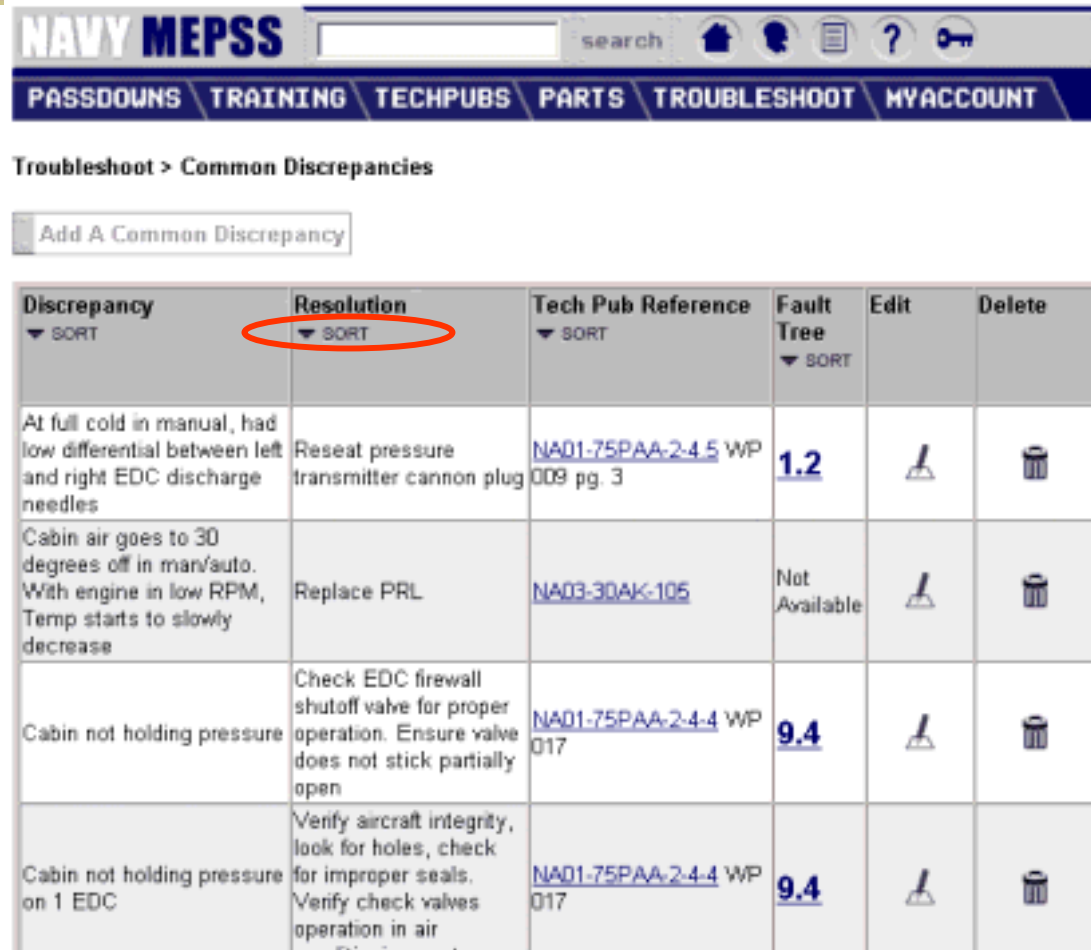
5 EDC drive shaft sheared

- [5.1](#) Surging/back pressure from air conditioning/ pressurization system
- [5.2](#) Dump solenoid circuit
- [5.3](#) Dump solenoid valve
- [5.4](#) Improper alignment of EDC mounting flange to engine reduction gear assembly case EDC mounting pad
- [5.5](#) Plugged (or capped) air pressure control orifice and/or surge control bias valve
 - [5.5.1](#) Clear air pressure control orifice (vent tube)
 - [5.5.2](#) Manually activate preswirl vanes and blow through surge control bias valve from disconnected air filter connection
 - [5.5.3](#) Verify connecting lines are clean, free of obstructions and correctly torqued
- [5.6](#) Binding or disconnected linkage to the preswirl controller or a defective surge bleed (dump) valve
- [5.7](#) Clogged or damaged rake or rake air lines
- [5.8](#) EDC firewall shutoff valve internal dump micro switch
- [5.9](#) EDC internal failure

[top level](#)

Sort Feature

- All sort buttons allow for a sort in ascending order. It is like a toggle switch - every time the button is pressed the sort order changes
- Sort can be chosen by the column and all rows are adjusted



The screenshot shows the NAVY MEPSS web application interface. At the top, there is a search bar and navigation tabs for PASSDOWNS, TRAINING, TECHPUBS, PARTS, TROUBLESHOOT, and MYACCOUNT. Below the navigation is a breadcrumb trail: Troubleshoot > Common Discrepancies. A button labeled "Add A Common Discrepancy" is visible. The main content is a table with the following columns: Discrepancy, Resolution, Tech Pub Reference, Fault Tree, Edit, and Delete. The "Discrepancy" and "Resolution" columns have a dropdown menu with "SORT" selected, which is circled in red. The table contains four rows of data, each with a description of a discrepancy, a resolution, a technical publication reference, a fault tree number, and edit/delete icons.

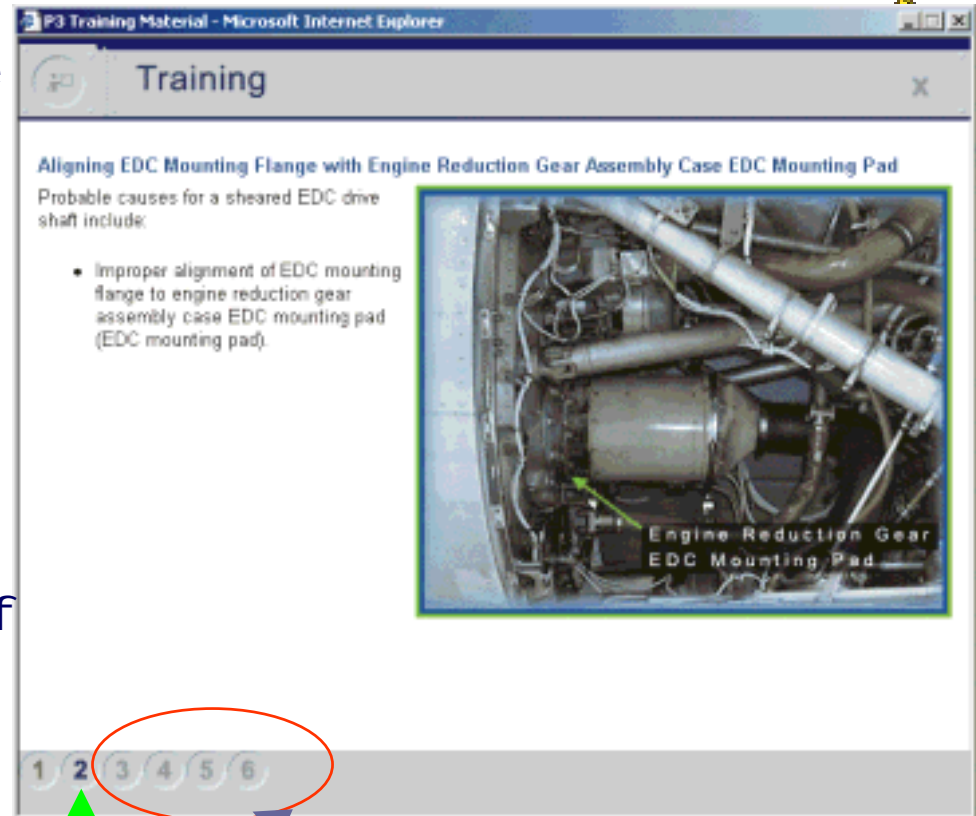
Discrepancy	Resolution	Tech Pub Reference	Fault Tree	Edit	Delete
At full cold in manual, had low differential between left and right EDC discharge needles	Reseat pressure transmitter cannon plug	NA01-75PAA-2-4.5 WP 009 pg. 3	1.2		
Cabin air goes to 30 degrees off in man/auto. With engine in low RPM, Temp starts to slowly decrease	Replace PRL	NA03-30AK-105	Not Available		
Cabin not holding pressure	Check EDC firewall shutoff valve for proper operation. Ensure valve does not stick partially open	NA01-75PAA-2-4-4 WP 017	9.4		
Cabin not holding pressure on 1 EDC	Verify aircraft integrity, look for holes, check for improper seals. Verify check valves operation in air	NA01-75PAA-2-4-4 WP 017	9.4		



Training



- Training was designed to ensure the user goes through all the steps in order. Once a user views a page, the user can jump around in the training segment to previously viewed pages
- A pop-up window appears when the user chooses to view a training module
- The numbers on the bottom of the screen indicate the pages of the training. A grey circle indicates the user has not viewed that screen. A green circle indicates the page has been viewed



Viewed

Not - Viewed


Page numbers

Search



- Search is designed to show the user where the key word appears thereby helping the user decide which search result would be the most helpful


Top Matches for "plug"

 **Training:** [See all 4 Training results...](#)


[Replace EDC Drain Plug Assembly - Packing](#)
This module describes how to replace the EDC drain plug assembly.

[Replacing Dipstick Plug: Installation](#)
This module describes installing the dipstick plug.

[Replacing Dipstick Plug: Removal](#)
This module describes removing the dipstick plug.

 **Fault Tree:**

[Discrepancy 12](#)
Metal particles on magnetic plug exceed 1/16 inch

 **Common Discrepancies Resolutions:**

[At full cold in manual, had low differential between left and right EDC discharge needles](#)
Reseat pressure transmitter cannon plug

[EDC Temperature HI light illuminated on deck. Unable to cool cabin.](#)
Reseat EDC temperature sensor cannon plug

Troubleshooting Tips/Passdowns



- When a comment or passdown is submitted the following happens:
 - When the laptop is connected to the server, the information that changed on the laptop is sent to the server
 - If there is a troubleshooting tip that is added to the server, it will either stay on the server for QA to review, or it will be emailed to the QA for review (the email is dependent on access to the network)
 - If a passdown is submitted, it is transferred to the server this passdown will show up on all systems during synchronization. An administrator or supervisor can edit or delete passdowns

Passdown



MEPSS - Microsoft Internet Explorer

Address: http://localhost:8000/p3lite/pass_downs/all_shift_passdowns.jsp?dateOptions=1&from=4%2F15%2F2002&tc

NAVY MEPSS search

[TROUBLESHOOT](#)
[TECHPUBS](#)
[TRAINING](#)
[PASSDOWNS](#)
[MYACCOUNT](#)
[HELP](#)

Passdowns > All Shift Passdowns

Date: 4/15/2002 to 4/22/2003 , Command: VP8 VP30 AIMD-JAX

[Filter Shift Passdowns](#)
 Sort By:
 out of 9

Name: PO3 Halls Command: AIMD-JAX Shift: MX BUNO: 55 MCN: M4343 EDC S/N: 34 Discrepancy: test for kee Corrective Action: test for kee Notes: note Status: IW Date Submitted: 10/03/2002 12:08	Name: PO3 Halls Command: AIMD-JAX Shift: MX BUNO: 89 MCN: 781K2938 EDC S/N: 23 Discrepancy: for ethan Corrective Action: for ethan Notes: for ethan Status: IW Date Submitted: 09/26/2002 10:55
Name: PO3 Halls Command: AIMD-JAX Shift: MX BUNO: 34 MCN: 34 EDC S/N: 23	Name: PO3 Halls Command: AIMD-JAX Shift: DX BUNO: 34 MCN: 34 EDC S/N: 23

Done Local intranet

Passdown

NAVY MEPSS search

TROUBLESHOOT **TECHPUBS** **TRAINING** **PASSDOWNS** **MYACCOUNT** **HELP**

Welcome PO3 burdell
April 22, 2003 (03112) 17:45:39

Announcements
Please fill out your MEPSS Survey [here](#).
test

Passdown Record	
PO3 Halls 10/03/2002 12:08	Passdown: test for kee Corrective Action: test for kee
PO3 Halls 09/26/2002 10:55	Passdown: for ethan Corrective Action: for ethan
PO3 Halls 09/13/2002 22:50	Passdown: test Corrective Action: none
PO3 Halls 08/30/2002 15:22	Passdown: test2 Corrective Action: none
PO3 Medlin 08/28/2002 15:31	Passdown: None Corrective Action: Took action and corrected the problem

Local intranet

Help



- The Help option in the menu provides detailed instruction on using all aspects of the system, as well as a site map with navigation information.

PASSDOWNS	TRAINING	TECPUBS	ICON KEY
<ul style="list-style-type: none">>View Passdown Record>Submit Passdown	<ul style="list-style-type: none">>Training Modules>Orion Digest 16>Orion Digest 41>NATOPS>NFO/Aircrew Natops>NAMTRA Training	<ul style="list-style-type: none">>All>NA01-75PAA-2-2.4>NA01-75PAA-2.4>NA01-75PAA-2-4.5	<ul style="list-style-type: none">HOMECOMMENTSNOTESONLINE HELPLOGINSYNCHRONIZE
PARTS	TROUBLESHOOT	MYACCOUNTS	
<ul style="list-style-type: none">>Part Catalog>IPB>Saved Parts Order	<ul style="list-style-type: none">>Fault Tree>Common Discrepancies>Maintenance Control Check List>Submit TroubleView One Word Tips>Tips	<ul style="list-style-type: none">>Edit Profile>Change My Profile>Manage My Team	

Technology Integration Vision

