

Manual Part # 19-00304MTS-DL4: Puradyn Installation Notes for Cummins QSK50 Gen Set Package

Note Puradyn model nomenclature change: The M85 system (prev. MTS 240), and Application Kit 01-A1M85X-C (prev. 01-70002MTS-DL4)

Cummins QSK50 Generator Set Package		
Puradyn Part #	Description	Qty
SYSTEM		
15-70022-3	M85 Main Assembly w/FPS Manifold Oil & Gas Services 1-US, Top Return	1
02-M85X1	Filter, Size 85 XD (pre-installed)	1
19-00304MTS-DL4	Manual, Installation Notes for M85 Cummins QSK50 Genset (85 Gal. Sump)	1
19-00134	Manual, M System Standard Installation	1
HOSES		
15-70081M	Kit, Hose 1-US (for 01-A1M85X-C, includes 70" Supply Hose & 84" Return Hose, Off-road)	1
PARTS, ADDITIONAL KIT HARDWARE		
15-00427	Kit , Std. Parts Bag- 1 thru 3-unit system, M85 App. Kits	1
24-00110	Mounting Plate, CAT 3512 / Cummins QSK50	1
15-70120	Kit , Bolt Bag CAT 3512 / Cummins QSK50	1
15-70195	Kit , Bag Return Fitting, 1" NPT X -12 ORFS MTU 4000 Frac Truck / Cummins QSK50 Genset	1

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Customer Care Alert:

The owner/operator of this equipment is responsible for proper installation, care, maintenance, product registration and usage as outlined in the puradYN Bypass Oil Filtration System Installation Manual.

The following document is used in conjunction with the **puradYN** Bypass Oil Filtration System Installation Manual (part number 19-00134) that is included in the system box, and as such, should be considered a supplemental source of information. Furthermore, this document covers the installation of an M85 Bypass Oil Filtration System on a Cummins QSK50 Generator Set Package.

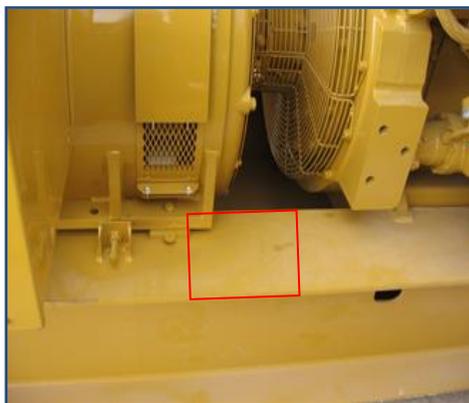


Picture 1: After Installation

Mounting the System: The Bypass Filter System should be mounted at the location as shown in **Picture 2**. Prepare the **mounting pedestal** to mount the system as shown in **Pictures 2**, by using the *pedestal* as a template. The mounting pedestal will also have (4) stud holes, allowing the filter system bottom frame to be bolted to it. Secure the filter system using bolt hardware provided in the part number 15-70120 bolt kit. **Picture 3 & 4** illustrates an alternative way of mounting the systems using the mounting plate and the bolt hardware (15-70120) provided with the kit.



Picture 2: System mounting location



Picture 3: Rail-Mounted Location



Picture 4: Mounting plate install.- Rail Mounted (*Flat plate Set-up*)

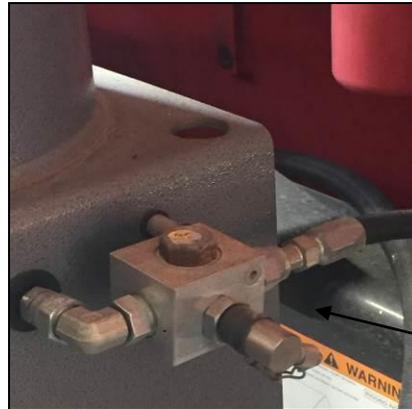
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Installing the pressure fittings: Install the shut-off valve to engine using supplied fittings as shown in **Picture 5**. Assemble (1) 3/16" ID supply hose assembly using supplied hose length and field-attachable hose fittings provided in the part number 15-70081M Hose Kit. Route the supply hose assembly to the shut-off valve on the engine. Connect line to the -4 Male ORFS fitting end of shut-off valve. Connect other end of supply hose assembly to the **paraDYN** System, by fastening hose end fitting to the -4 Male ORFS fitting on the end of FPS Manifold Assembly (**see Picture 6**).



Picture 5



FPS Manifold Assembly

Picture 6

Installing the Return Line: Locate and remove the drain plug from the oil sump of the engine. Replace the drain plug with the Return Fitting Assembly provided in this application kit- P/N 15-70195, as shown in **Picture 7**. Assemble (1) 5/8" ID return hose assembly using supplied hose length and field-attachable hose fittings provided in the part number 15-70081M Hose Kit. Connect (1) end of the return hose assembly to the Return Fitting Assembly and route other end of return hose assembly to the filter system's return fitting, and connect. The oil return hose assembly must be routed to assure it does not come in contact with any sharp edges or moving parts; **make sure hose is routed in downward slope, with no kinks or traps, to oil pan. Oil is returned by gravity (SEE INSTALLATION MANUAL)**. Secure in place with clamps if necessary. Drain the engine oil and clean all surfaces.

Note: Properly orient the fitting in order to avoid damage from debris.

Note: If necessary, cover the oil return hose with a secondary hose (or equivalent) to better protect it from potential damage.



Picture 7: Actual hardware not shown

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Testing the Bypass System:

Clean all surfaces and wipe off oil. Check all fittings tightness. Check operation of shut-off and sampling valve. Tie off all lines with tie wraps. Fill engine with oil. Start engine and check all connections for oil leaks. Press FPS Manifold's sample valve and verify that oil flow is present. After five minutes of engine operation, touch the bottom center of the Bypass Oil Filtration system and verify that it is warm to the touch. Shut engine off and check oil level. Place **para**DYN Installation Manual in the documentation holder mounted to the equipment.

Filter Change and Oil Analysis

Replace the **para**DYN filter element and perform oil analysis at the oil change intervals recommended by your equipment's Original Engine Manufacturer (OEM). **As long as the oil analysis confirms that the oil is suitable for continued use, the oil does not need to be changed.**

	Before para DYN Installation	Midpoint of First OEM Interval	Each OEM interval
Take Oil Analysis Sample	✓	✓	✓
Change para DYN filter and change/clean full flow filter		✓	✓
Change Oil	✓	If analysis requires	If analysis requires

Oil analysis is a fast, non-invasive way to monitor the condition of your engine or hydraulic oil and is key to evaluating the benefits that result from optimized oil life and extended oil drain intervals. In addition, oil analysis is the only economical way to measure wear or contamination in the engine or equipment and often serves as an indicator of potentially costly problems.

Samples are easily taken from the oil sample valve provided with each unit. Sampling the oil before it enters the **para**DYN system enables an accurate assessment of the condition of the equipment. The oil analysis is conducted by an independent laboratory and is reported in a three-tier test that includes: spectrographic metals, wear metals, and contaminant metals (these metals must be monitored to fully evaluate the lubrication)

For extended oil drain practices relative to over the road trucks, Puradyn follows the Technology & Maintenance Council's (TMC) stringent requirements.

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TROUBLESHOOTING SECTION

The **puradYN** system has been engineered in a quality system certified to ISO 9001. It is manufactured from the highest quality materials available with superior workmanship. If, however, your **puradYN** system is not functioning properly, check the following conditions as indicated:

Restricted oil Flow:

- Pressure line may be clogged..... blow line out with high air pressure (**do this first**)
- Shutoff valve maybe closed..... open valve
- Filter may be dirty and clogged replace with new filter
- Metering jet screen maybe clogged clean screen thoroughly
- If metering jet is clogged clean metering jet thoroughly

Cleaning the Metering Jet Assembly (M Series Models)



1) Loosen locknut, which secures FPS Manifold Assembly to unit base



2) Loosen hose fitting, to disconnect 'Inlet Plumbing Hose Assembly'



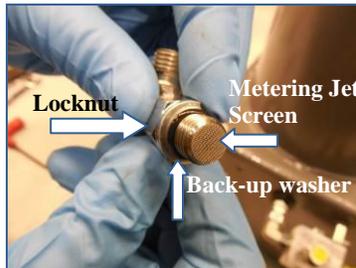
3) Loosen (adjustment) locknut on 90 Degree fitting, then rotate entire fitting CCW to remove- metering jet screen will drop down



4) Clean port internals & metering jet screen with solvent/fine wire brush; use high-pressure air to blow-out port & screen, clearing any debris



5) Back-off locknut/back-up washer on 90 degree fitting and lubricate external o-ring w/system fluid, also applying a dab on face of fitting- for screen adherence



6) Place screen on face of fitting, centered, against dabbed oil; screw this end of fitting into port- by hand, until back-up washer contacts face of port.



7) Slightly unscrew fitting- as required to align with hose assembly, then use (2) wrenches to hold fitting in place while tightening locknut; reconnect hose assembly



8) Check all fittings for tightness, then re-tighten locknut- securing FPS Manifold Assembly to unit base