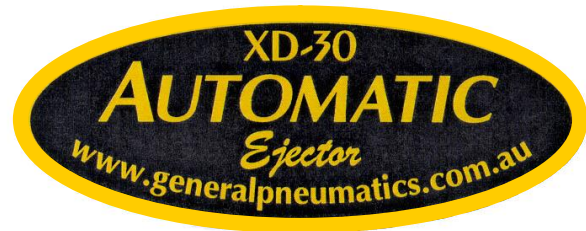




GENERAL
PNEUMATICS



TruckMaster Filter & DumpMaster Drain Valve

“MAINTENANCE MANUAL”

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Series 500 TruckMaster® Filter is patented in the U.S.A, Canada, Australia, New Zealand, Brazil, South Korea, Japan, Germany, Italy, Sweden and France. Patents are pending in over 20 other countries. DumpMaster®and TrailMaster® Drain Valves have patents pending in over 60 countries. TruckMaster® is a Registered trademark.

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1. INTRODUCTION

1.1. TruckMaster® Filters and DumpMaster® Drain Valves

With the sophistication and use of pneumatic technology in modern transport vehicles ever increasing, so has the need for clean, dry air.

The contaminants that collect in air brake systems and air reservoirs consist of water condensed from the air and a small amount of oil from the compressor. This water and oil mixture normally pass into the system in the form of vapour because of the heat generated during compression.

Oil, dirt and water have a considerable effect on the life and reliability of all pneumatic devices such as desiccant air driers, air bags, relay valves, check valves, levelling valves, purging valves and control valves, as well as power divider cylinders and cross locks for axles.

The availability of the new TruckMaster® Series 500 Filter and DumpMaster® Electronic Drain Valves allows the transport industry total flexibility and has many advantages for the efficient management of heavy vehicle's "Air System".

TruckMaster® Filter technology does not rely upon desiccants or coalescing filters and combines a non-block, automatically activated drainage system with revolutionary filtration technology.

TruckMaster® Filters and DumpMaster® Drain Valves provides %Total Air System Filtration+as a logical alternative to desiccant dryers. If a dryer is required or already fitted, TruckMaster® can be used as a **Pre-Filter** to protect the desiccant material from heat, oil and carbon contamination.



Figure 1 TruckMaster® Electronic Filter ETP-500



2. MODEL IDENTIFICATION

2.1. TruckMaster® Pro Systems and Filters

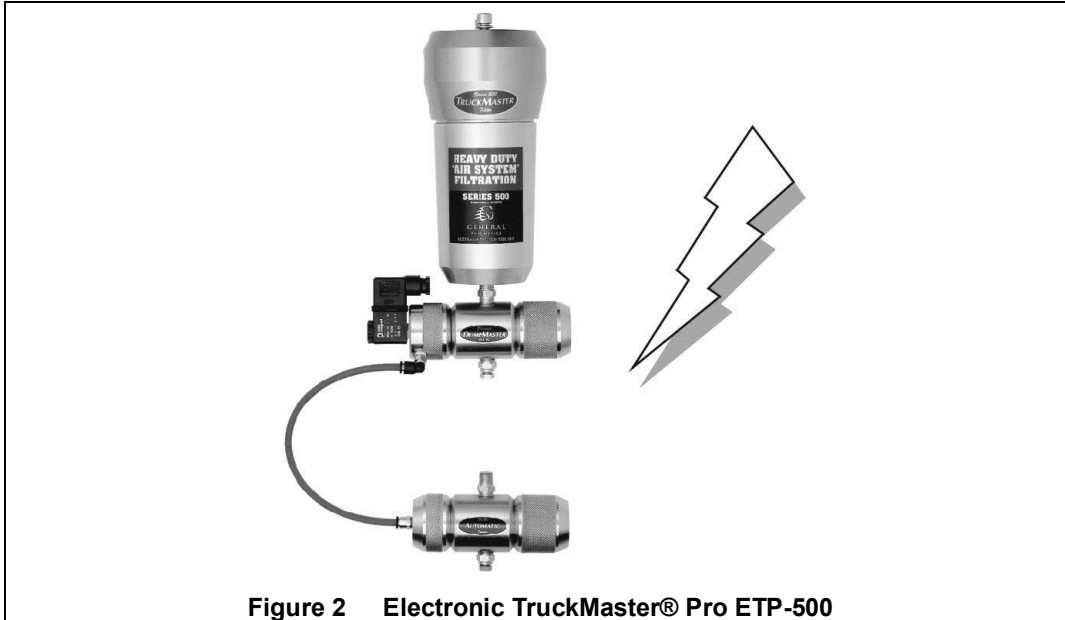


Figure 2 Electronic TruckMaster® Pro ETP-500

Description: A Series 500 TruckMaster® Filter fitted with an DumpMaster® Electronic EXT-50 Drain Valve *and* a remote DumpMaster® Automatic XD-30 Drain Valve (automatically actuated via Auxiliary Port of DumpMaster® Electronic EXT-50 Drain Valve) for *Integrated Condensate Control* of the wet tank reservoir.

To Suit: Heavy vehicles fitted with air suspension or where compressor load factors/duty cycles are high Eg. Waste trucks, City buses, Triples and B-Doubles.



Figure 3 TruckMaster® Pro TP-500

Description: A Series 500 TruckMaster® Filter fitted with a compressor governor-valve-actuated DumpMaster® Automatic XD-30 Drain Valve *and* a remote DumpMaster® Automatic XD-30 Drain Valve (also governor-valve actuated) for *Integrated Condensate Control* of the wet tank reservoir.

To Suit: Heavy vehicles fitted with mechanical/ spring suspension - excluding waste vehicles.
A TP-500 CAN BE UPGRADED TO AN ELECTRONIC ETP-500 THROUGH THE SUPPLY AND FITMENT OF THE DUMPMASTER® ELECTRONIC EXT-02 DRAIN VALVE ACTUATING END CAP ASSEMBLY. REFER TO PARAGRAPH 3 - INSTALLATION.



**2.2. DumpMaster® Non-Block Drain Valves
(Available Separately)**

The development of the new range of "non-block" DumpMaster® Drain Valves, particularly the Electronic DumpMaster® EXT-50, has allowed the transport industry total flexibility for the efficient management of condensate in wet tanks and air reservoirs of heavy vehicles.

As the complexity of the air brake system has increased, so has the need for clean air. Unlike the DumpMaster® EXT-50 and the XD-30 Drain Valves, most other drain valves contain small (usually 1mm) orifices and passages and thus, are more susceptible to contaminant blockages.

Available in a model to suit every application, the installation of the modular range DumpMaster® Drain Valves not only conform to Air Preparation and ISO Standards but also optimises "Air System" performance by reducing heat, water and oil condensation carry-over.

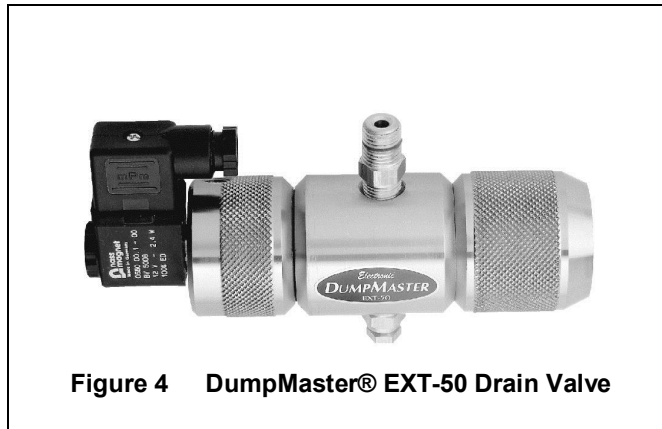


Figure 4 DumpMaster® EXT-50 Drain Valve

Description/Voltage: Fully Electronic actuated DumpMaster® Drain Valve with choice of 12 and 24 volts and includes In-Built Timer set at 6 minute intervals,
To Suit: All vehicles fitted with air suspension or where compressor duty cycles cause problems with governor valves.

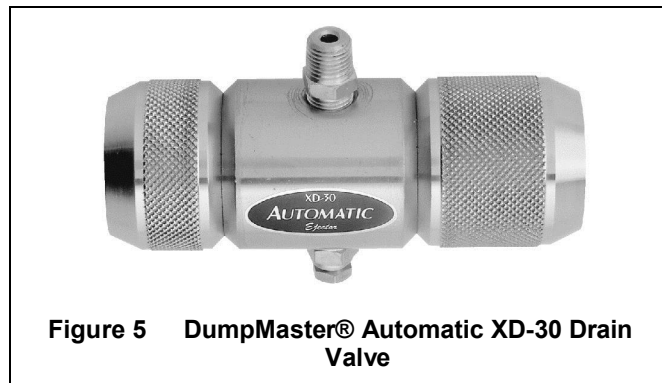


Figure 5 DumpMaster® Automatic XD-30 Drain Valve

Description: Compressor governor actuated (or via Auxiliary Port of DumpMaster® EXT-50 Drain Valve) for Condensate Control of the wet tank or other air receivers.
To Suit: All vehicles including vehicles with air/ hydraulic systems.



3. INSTALLATION

3.1. TruckMaster® Pro Series ETP-500

1. General Information

The TruckMaster® "Air-System" Filter is simple to install and the unit includes a mounting bracket and bolts. The best results and highest efficiency are achieved when the compressed air inlet temperature is at its lowest. It is therefore necessary that the suitable installation point for the TruckMaster® Filter is **after** the wet tank reservoir.

NOTE

For vehicles supplied without a wet tank it is critical that a suitable wet tank (with pressure relief valve) is fitted to assist in cooling the compressed air and to conform to International Air Preparation and ISO standards. Refer Figure 6.

2. Positioning the Unit on the Vehicle

- TruckMaster® should be installed directly **after** the wet tank reservoir.
- Position TruckMaster® in an area that will allow you access for servicing. Approx. 305mm clearance is required to unscrew the bowl.
- Position TruckMaster® where there is good air circulation. Eg. No direct heat from exhaust stack or heat generating equipment. Be sure it is mounted vertically.

WARNING

DO NOT RESTRICT THE EXHAUST PORTS OF DUMPMASER® DRAIN VALVES. IF A CONTAMINATION DEFLECTOR IS REQUIRED USE A 3/8" (10MM) ELBOW WITH 1/2" (13MM) TUBE.

3. Connecting the TruckMaster® Filter

- The main air pipe coming from the wet tank reservoir to the inlet port of the TruckMaster® Filter and from the outlet should be 1/2" I.D (13mm) air brake nylon tubing to suit 1/2" NPT fittings.

4. Connecting the DumpMaster® Electronic EXT-50 Drain Valve of Filter

- Connect an air line to 1/8" NPT Pressure Port (P) of the DumpMaster® Drain Valve using 1/4" (6mm) nylon tubing.
- Connect the other end of the nylon tubing to the top of an air reservoir tank fitted **after** the filter (not the wet tank or the primary tank).
- Connect the brown wire (Positive) to ignition with a two (2) amp fuse between power and the DumpMaster® Drain Valve's solenoid assembly.
- Connect the blue wire (Negative) to the chassis.
- If a contamination deflector is required use a 3/8" (10mm) elbow with 1/2" (13mm) tube. Do not restrict the exhaust ports of DumpMaster® Drain Valve.

NOTE

The DumpMaster® electronic EXT-50 Drain Valve is fitted with an Auxillary Port (A). This port is used to actuate the DumpMaster® Automatic XD-30 Drain Valve when fitted to the Wet Tank. Constant air pressure must be connected to the Pressure Port (P). The Auxiliary Port (A) must be plugged or connected to the DumpMaster® XD-30 Drain Valve for it to actuate.

5. Connecting the DumpMaster® Automatic XD-30 Drain Valve (Series ETP-500 Filter System Only)

- Remove the manual drain and install an DumpMaster® automatic XD-30 Drain Valve with 1/4" NPT nipple which is supplied with the DumpMaster® Drain Valve.
- Connect a 1/4" (6mm) nylon tube to 1/8" NPT Actuator Port of the DumpMaster® Automatic XD-30 Drain Valve and to Auxiliary Port (A) of the DumpMaster® Electronic EXT-50 Drain Valve.

NOTE

Where ground clearance is critical, fit the DumpMaster® automatic XD-30 Drain Valve to a remote position on the chassis above the wet tank. An optional mounting bracket (XD-17) is supplied as part of the assembly (refer Figure 18). Remove the 1/4" Hex nipple from the DumpMaster® automatic XD-30 Drain Valve and fit it to the wet tank drain port. Connect 1/2" (13mm) nylon tubing between Hex nipple and Automatic XD-30 using suitable compression fittings.

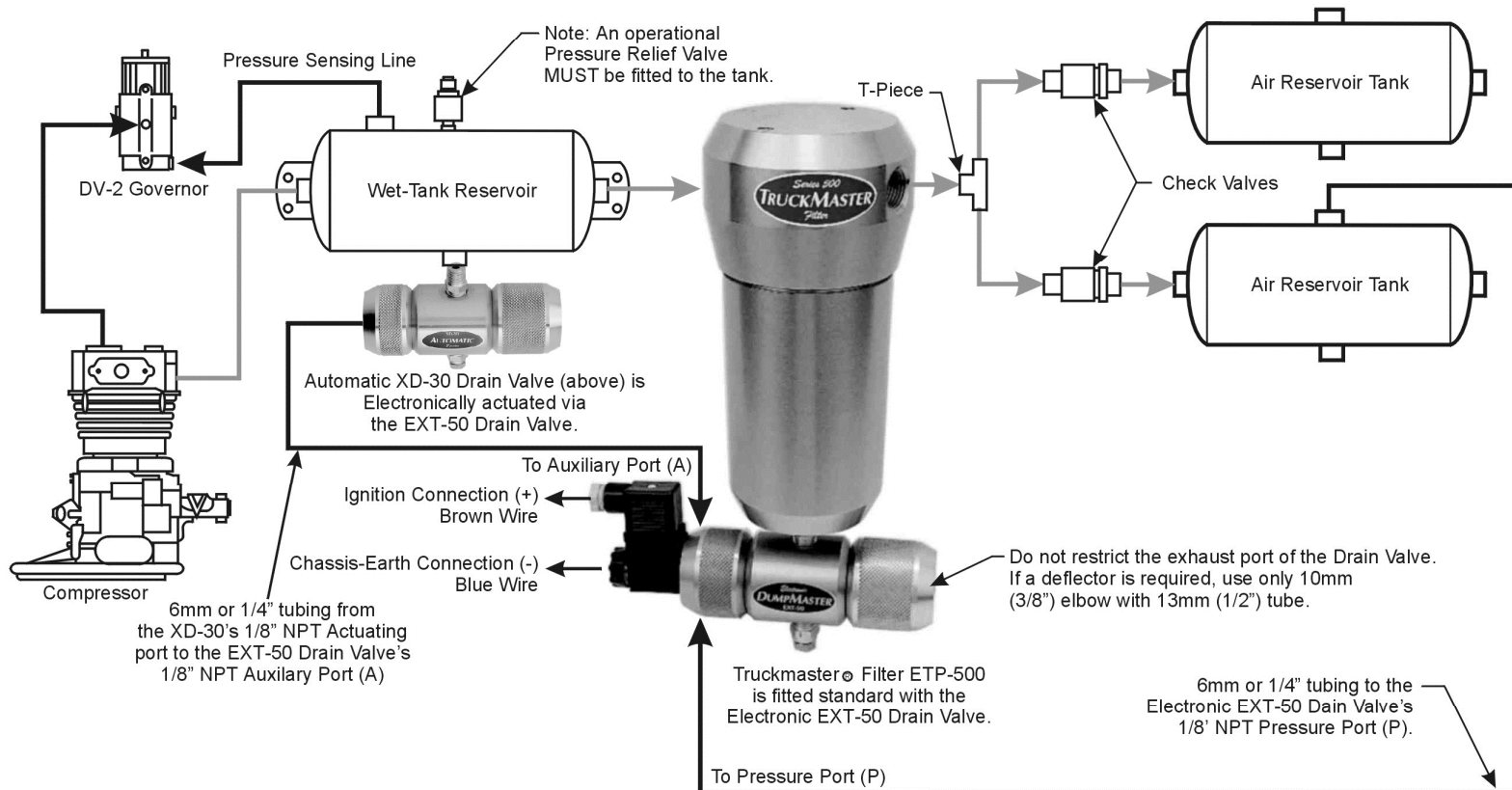
6. Test Operation

- Start the engine and build up air pressure.
- Confirm that an automatic discharge occurs from the DumpMaster® Drain Valve within 6 to 10 minutes.
- Refer to the Troubleshooting section if the unit fails to operate correctly.

INSTALLATION SCHEMATIC

TRUCKMASTER® PRO SERIES ETP-500

Shown: Model ETP-500 Electronic TruckMaster® Filter.



NOTE:

Keep the electronic solenoid assembly away from direct water contact of high pressure cleaning devices. Warranty may be voided.

Figure 6 Model ETP-500 Installation Schematics

3.2. European Installation

TRUCKMASTER® FILTER INSTALLED BEFORE AN AIR DRYER

NOTE: WHEN FITTING A TRUCKMASTER® FILTER BEFORE THE AIR DRYER, THE GOVERNOR VALVE PRESSURE SENSING AIR-LINE MUST BE RELOCATED AFTER THE AIR DRYER.

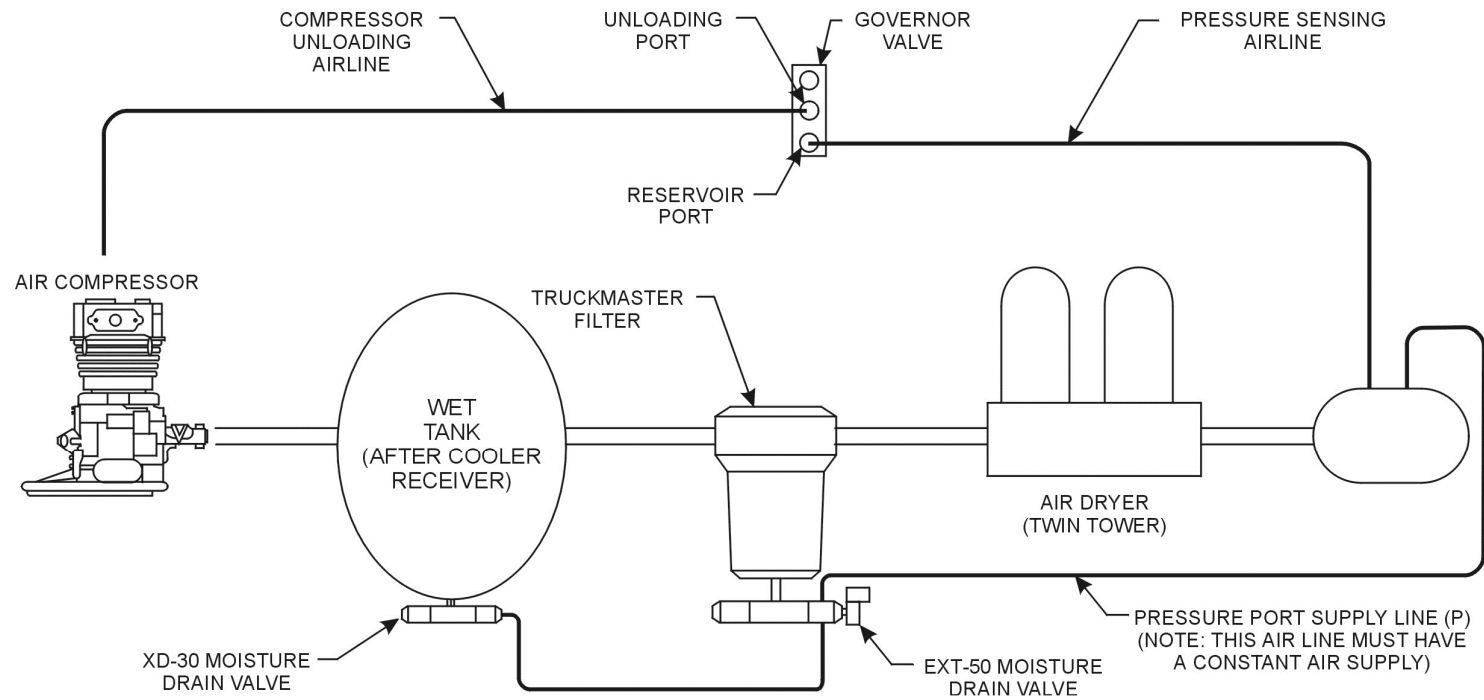


Figure 7 TruckMaster® Filter Installed Before An Air Dryer



3.3. Sample Installation Schematics

INTERNATIONAL/IVECO SETUP
 ONE TANK INCORPORATING
 WET & SECONDARY TANK

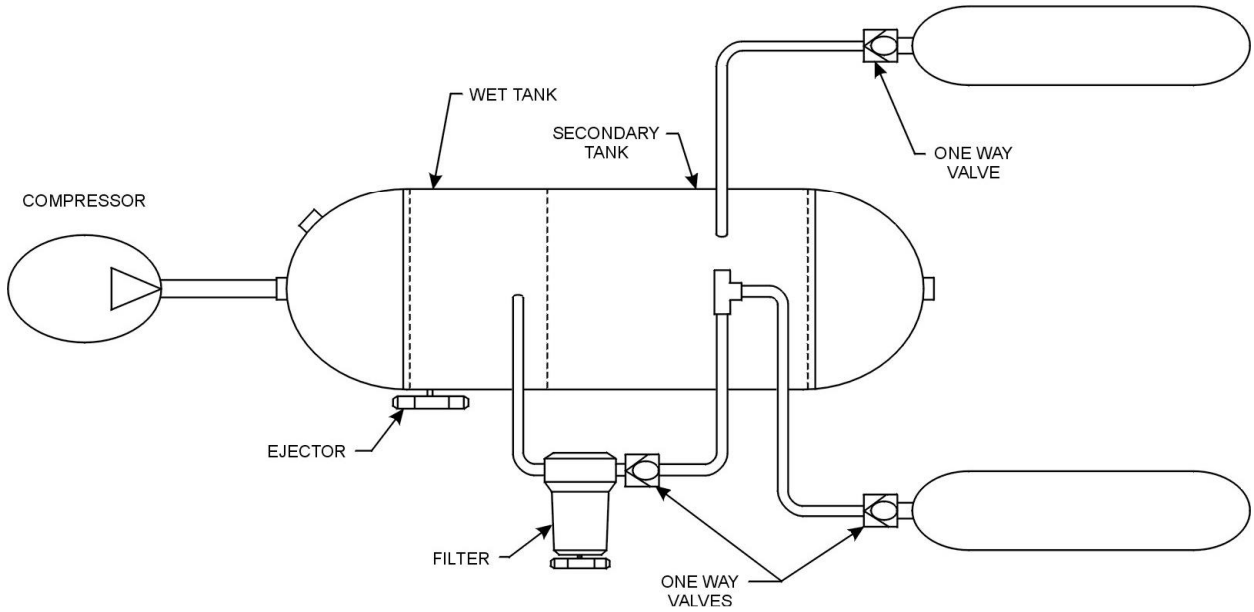


Figure 8 Sample of International/Iveco System
 AIR SYSTEM WITH MORE THAN ONE TANK

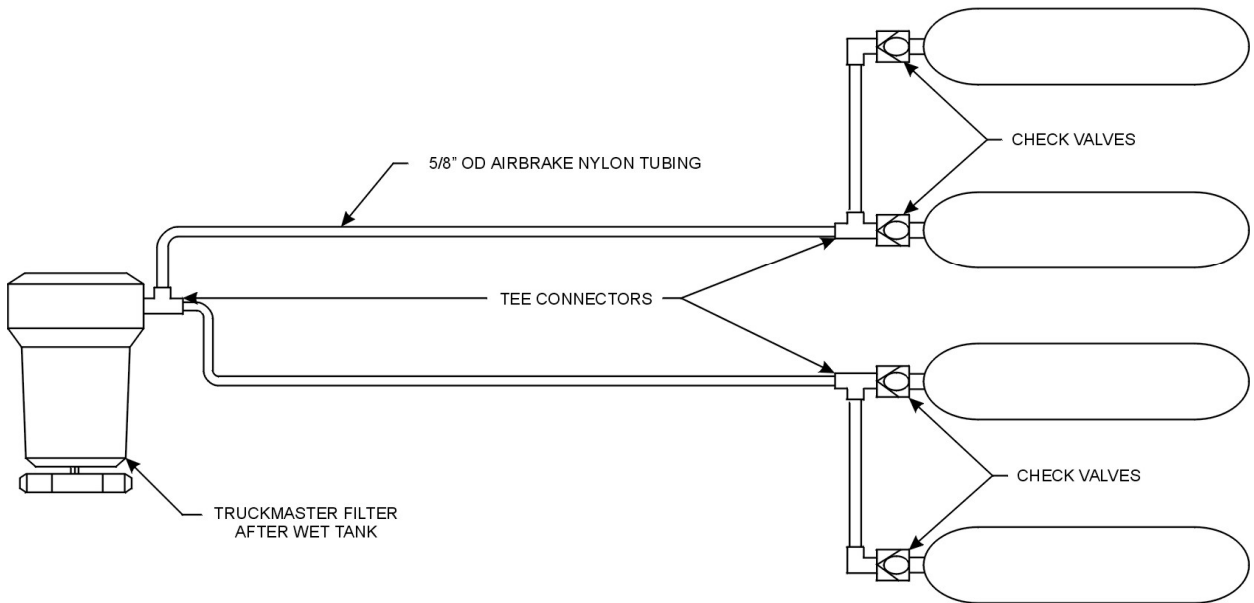


Figure 9 Sample of Multiple Tank System



4. SERVICE PROCEDURES

WARNING

WHEN TESTING THE AIR SYSTEM ALWAYS CARRY OUT THE FOLLOWING PROCEDURES:

STOP THE ENGINE.

BLOCK THE WHEELS. BLEEDING OFF AIR PRESSURE MAY CAUSE THE VEHICLE TO ROLL.

EXHAUST ALL AIR PRESSURE FROM THE AIR SYSTEM.

NEVER CONNECT OR DISCONNECT A HOSE OR LINE CONTAINING AIR PRESSURE.

NEVER REMOVE AIR-SYSTEM COMPONENTS OR FITTINGS UNLESS ALL AIR PRESSURE HAS BEEN EXHAUSTED.

DO NOT EXCEED WORKING AIR PRESSURE.

ALWAYS WEAR SAFETY GLASSES.

4.1. TruckMaster® Filters

RECOMMENDED TWICE A YEAR OR EVERY 120,000 KMS.
IN WASTE VEHICLES SERVICE AT LEAST 4 TIMES A YEAR.

One of the highlight features of the TruckMaster® Filter is the simplicity and cost effectiveness in servicing the unit within minutes.

1. Drain all compressed air from the system and disconnect the air line from the DumpMaster® Drain Valve.
2. Unscrew and remove the Bowl. See Figure 10.

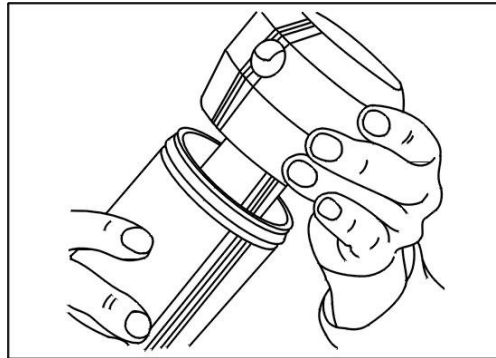


Figure 10 Bowl Removal

3. Remove the entire Service Module by simply pulling the Coalescing Tube (whilst intact) from the Cap of the Filter. See Figure 11.

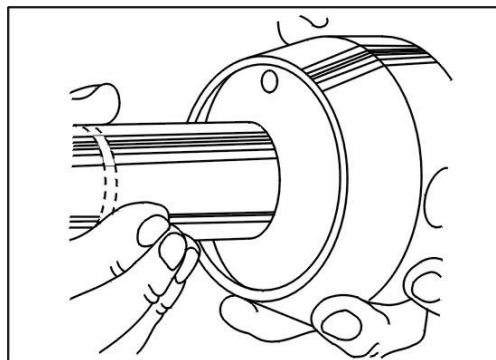


Figure 11 Removing the Coalescing Tube



- Remove the Coalescing Tube (unscrew) from the Expansion Manifold and unscrew the Impaction Disc. See Figure 12.

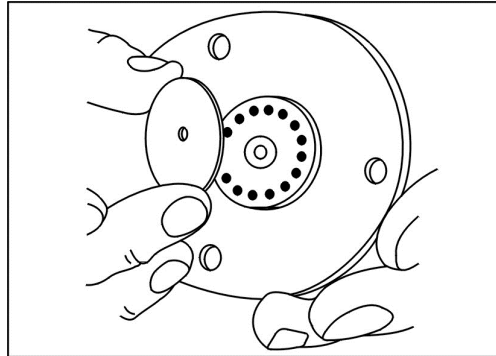


Figure 12 Removing the Impaction Disc

- Disassemble all components by removing the M5 Screw. See Figure 13.

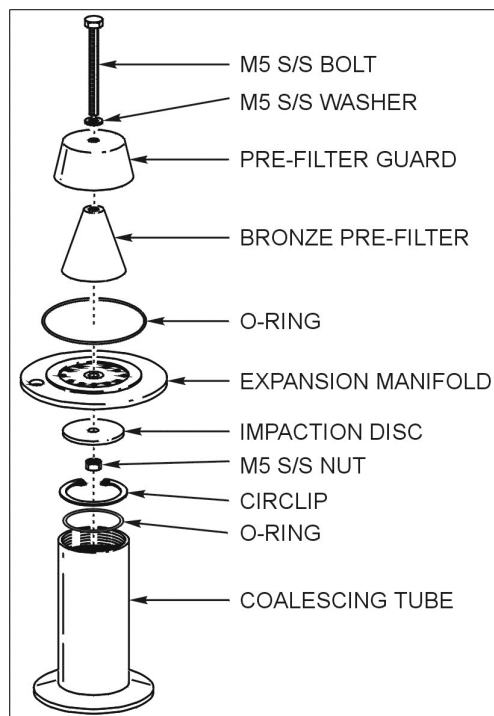


Figure 13 Disassembly

- Wash the Cap, Bowl, Bronze Pre-Filter, Expansion Manifold and Coalescing Tube's Stainless Steel Meshes using a solvent.
- Using air pressure blow-off the Bronze Pre-Filter, and the Stainless Steel Meshes in the Coalescing Tube "inside-out" to dislodge all foreign particles. Repeat this procedure three (3) times.
- Make sure the Bronze Pre-Filter has no restrictions before re-assembling in the Service Module.
- If the Bronze Pre-Filter is restricted or blocked, replace the filter by using Service Kit 505.
- To ensure an excellent seal, check condition and positioning of the Cap O-Rings. Using a lubricant will always ensure a precise fit.



4.2. DumpMaster® XD-30 and EXT-50 Drain Valves

RECOMMENDED TWICE A YEAR OR EVERY 120,000 KMS.
IN WASTE VEHICLES SERVICE AT LEAST 4 TIMES A YEAR.

WARNING

WHEN TESTING THE AIR SYSTEM ALWAYS CARRY OUT THE FOLLOWING PROCEDURES:

STOP THE ENGINE.

BLOCK THE WHEELS. BLEEDING OFF AIR PRESSURE MAY CAUSE THE VEHICLE TO ROLL.

EXHAUST ALL AIR PRESSURE FROM THE AIR SYSTEM.

NEVER CONNECT OR DISCONNECT A HOSE OR LINE CONTAINING AIR PRESSURE.

NEVER REMOVE AIR-SYSTEM COMPONENTS OR FITTINGS UNLESS ALL AIR PRESSURE HAS BEEN EXHAUSTED.

DO NOT EXCEED WORKING AIR PRESSURE.

ALWAYS WEAR SAFETY GLASSES.

A simple 15 minute inspection and service will assure proper operation and long life of the DumpMaster® Drain Valve.

1. Drain all compressed air from the air brake system.
2. Disconnect the air line from the DumpMaster® Drain Valve.

NOTE

The DumpMaster® Drain Valve can be service institu or removed from the vehicle and placed in a vice.

3. Unscrew and remove the solenoid assembly (ETP-500 and EXT-500 only).
4. Clean the outside of the DumpMaster® Drain Valve and unscrew both end caps.
5. Undo the nyloc nut from the spindle bolt. Note the location and order of all the components.
6. Remove the spindle, retainers, spring and seals.
7. Inspect, lubricate and/or replace any worn or damaged parts. See Kit XD-102 (refer Section 5.4).
8. Clean and grease the bore of the DumpMaster® Drain Valve using the supplied grease. Grease the new seals.

NOTE

During assembly follow these procedures:

The small end of the Spring (XD-11) MUST fit against the concave face of the brass curved Spring Retainer (XD-09).

Ensure the end (or coil) of the Spring does not get caught between the Spring Retainer (XD-09) and the Spindle (XD-05).

The large concave face of the red Exhaust Seal (XD-13) is fitted towards the Spring (XD-11).

9. Assemble the components in the same order as noted on disassembly (refer Figure 17 and Figure 18). Tighten the Locknut (XD-07) to 30 inch pounds (2.5 ft.lbs or 3.5Nm).
10. Fit the Spindle Assembly into the DumpMaster® Drain Valve Body and ensure it slides freely.
11. Grease and fit both O-rings (XD-14 and XD-15) to the DumpMaster® Drain Valve Body (XD-01). Refer Figure 17 and Figure 18.
12. Grease both End Caps (XD-02 and XD-03) and fit to the DumpMaster® Drain Valve Body (XD-01).
13. Refit the DumpMaster® Drain Valve to the Filter (if removed).
14. Refit the solenoid assembly (ETP-500 and EXT-50 only).



15. Test operation (ETP-500 and EXT-50)
 - a) Start engine and build-up air pressure.
 - b) Wait 6-10 minutes for first electronic discharge of the DumpMaster® EXT-50 Drain Valve.
16. Test operation (XD-30)
 - a) Start engine and build-up air pressure.
 - b) Apply brakes 6-8 times to activate DumpMaster® Drain Valve.
 - c) If no air is being ejected from DumpMaster® Drain Valve check that the TruckMaster® Filter is under pressure using drain cock.

NOTE

Keep electronic solenoid assembly away from direct water contact of high pressure cleaning devices, warranty may be voided.

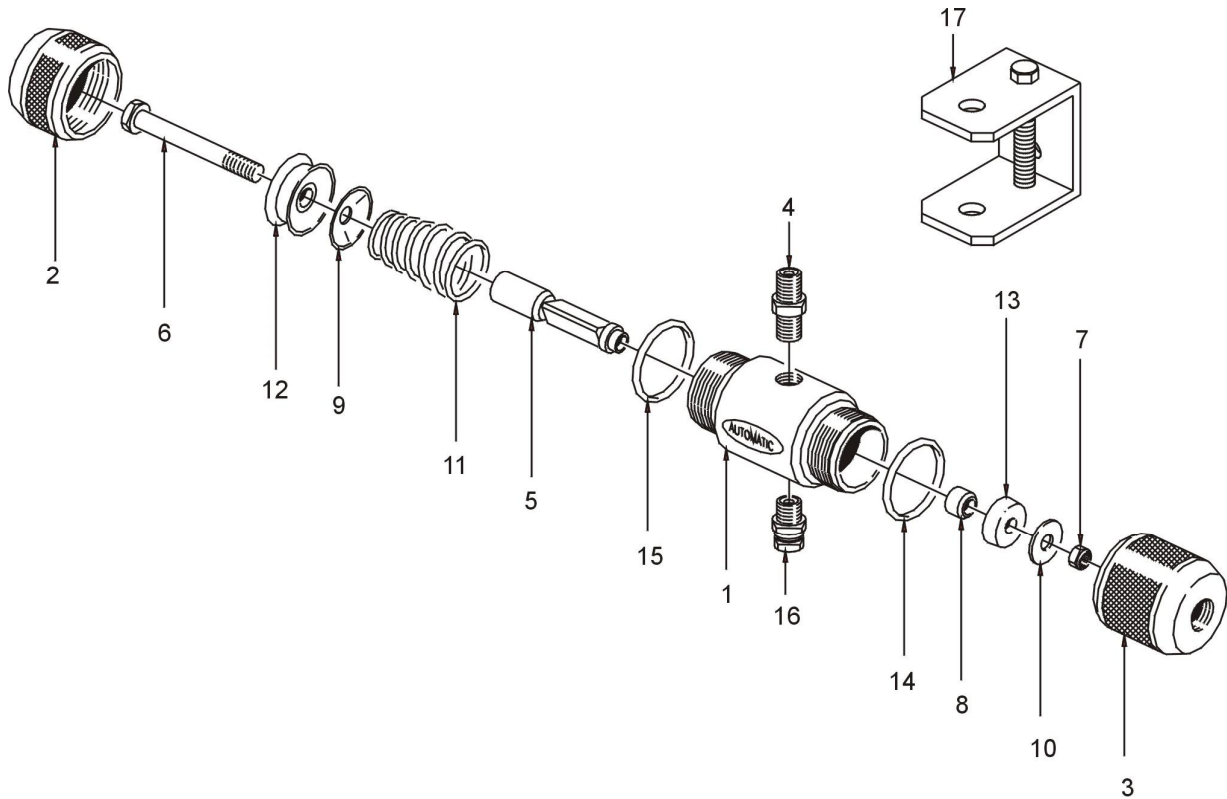


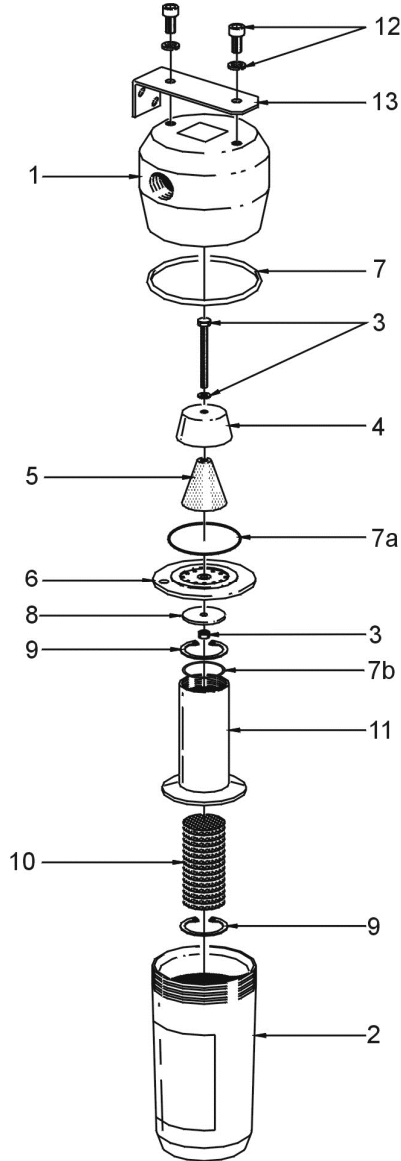
Figure 14 DumpMaster® Drain Valve

Index No.	Part No.	Description	Index No.	Part No.	Description
1	XD-01	Drain Valve Body	10	XD-10	Flat Washer
2	XD-02	Actuating End Cap	11	XD-11	Stainless Steel Spring
3	XD-03	Exhaust Cap	12	XD-12	Actuator Piston Seal
4	XD-04	1/4" NPT Brass Nipple	13	XD-13	Exhaust Seal
5	XD-05	Spindle	14	XD-14	O-Ring
6	XD-06	Bolt	15	XD-15	O-Ring
7	XD-07	Locknut	16	XD-16	Safety Drain Cock
8	XD-08	Spindle Collet	17	XD-17	Mounting Bracket
9	XD-09	Spring Retainer			



5. SPARE PARTS AND SERVICE KITS

5.1. Series 500 TruckMaster® Filter Spare Parts and Service Kit



TruckMaster® Filter Service Kit 505		
Item No	Qty	Description
3	1	M5 Screw Set
5	1	Bronze Pre-Filter
7	1	Cap O-Ring
7a	1	Expansion Manifold O-Ring
7b	1	Coalescing Tube O-Ring
9	2	Circ Clips
10	1	Stainless Steel Mesh Set

Figure 15 TruckMaster®Filter Assembly

Item No	Part Number	Qty	Description	Item No.	Part No	Qty	Description
1	XT-500-01	1	Head (Top Chamber)	7b	XT-500-07B	1	Coalescing Tube O-Ring
2	XT-500-02		Bowl	8	XT-500-08	1	Impaction Disc
3	XT-500-03	1	M5 S.S. Screw/Nut/Washer	9	XT-500-09	2	Circ Clips
4	XT-500-04	1	Pre-Filter Guard	10	XT-500-11	7	S.S. Meshes Set
5	XT-500-05	1	Bronze Pre-Filter	11	XT-500-12	1	Coalescing Tube
6	XT-500-06	1	Expansion Manifold	12	XT-500-14	2	M8 S.S. Screws
7	XT-500-07	1	Cap O-Ring	13	XT-500-13	1	Mounting Bracket
7a	XT-500-07A	1	Expansion Manifold O-Ring				

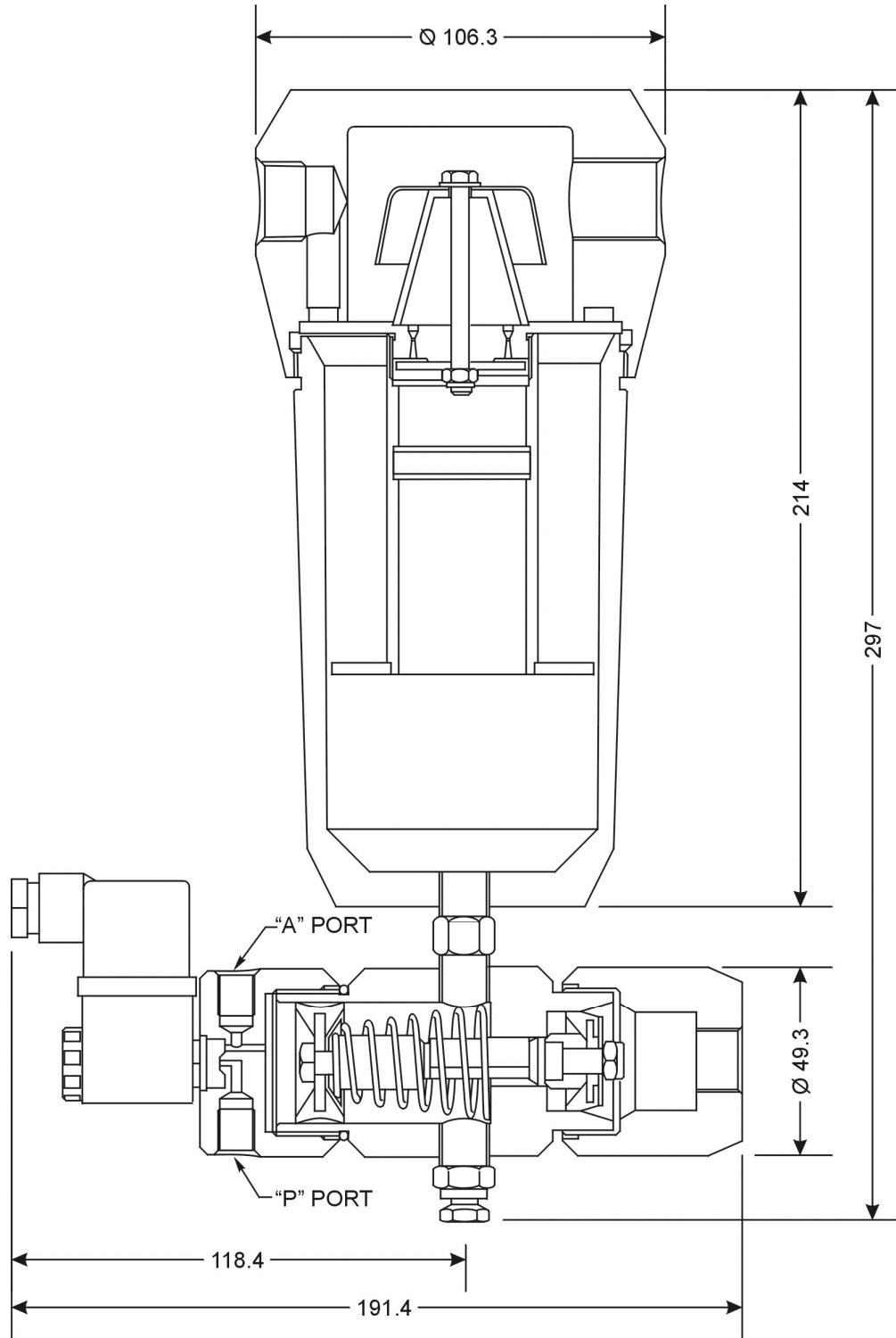


Figure 16 TruckMaster® Filter Sectional View



5.2. 500 Series DumpMaster® EXT-50 Drain Valve Spare Parts

DIMENSIONS: HEIGHT 49mm LENGTH 180mm

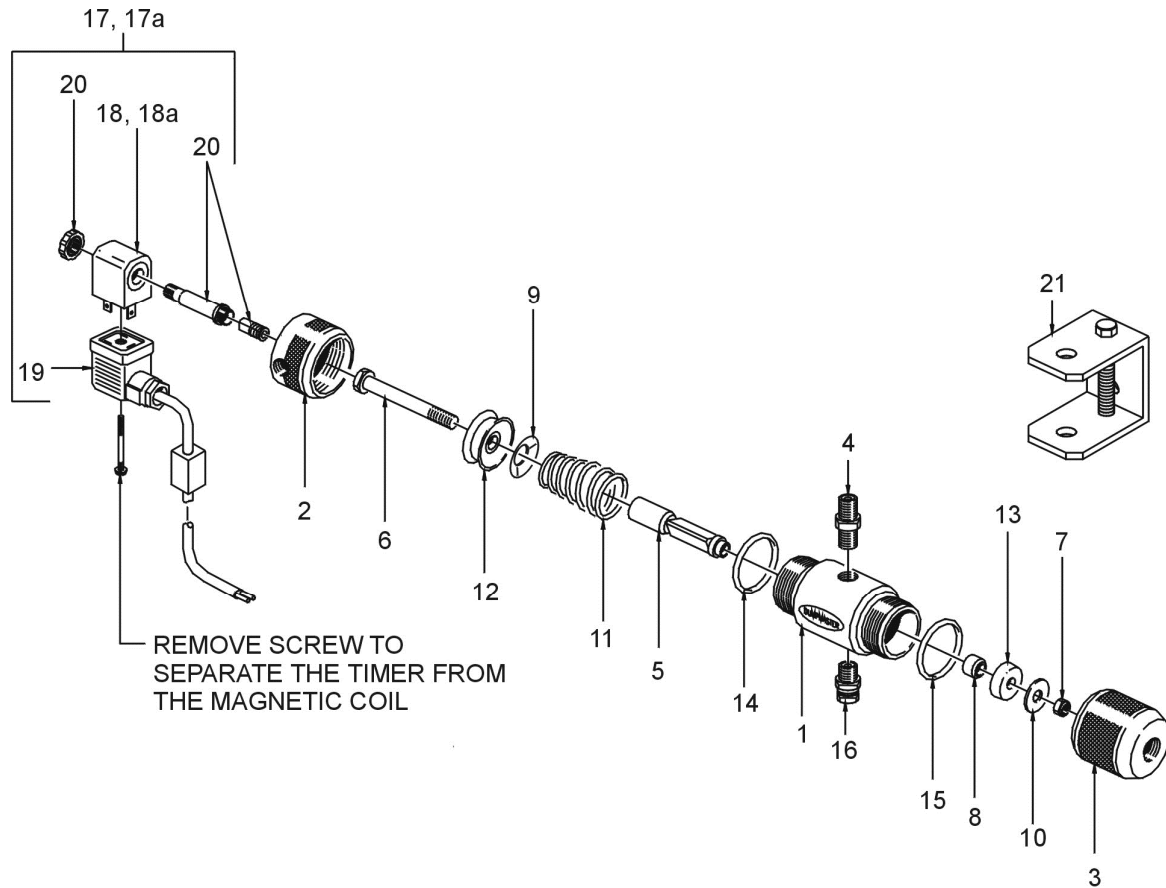


Figure 17 DumpMaster® EXT-50 Drain Valve

Item No.	Part No.	Description	Item No.	Part No.	Description
1	XD-01	Drain Valve Body	13	XD-13	Exhaust Seal
2	EXT-02	Electronic Actuating Cap	14	XD-14	O-Ring
3	XD-03	Exhaust Cap	15	XD-15	O-Ring
4	XD-04	1/4" NPT Brass Nipple	16	XD-16	Safety Drain Cock
5	XD-05	Spindle	17	MM-21-12V	Coil and Timer Assembly
6	XD-06	Bolt	17a	MM-21-24V	Coil and Timer Assembly
7	XD-07	Locknut	18	MC-12V	Magnetic Coil
8	XD-08	Spindle Collet	18a	MC-24V	Magnetic Coil
9	XD-09	Spring Retainer	19	ET-12/24V	Electronic Timer
10	XD-10	Washer	20	AMT-01	Armature Piston and Locknut
11	XD-11	Stainless Steel Spring	21	XD-17	Mounting Bracket
12	XD-12	Actuator Piston Seal			



5.3. DumpMaster® XD-30 Drain Valve Spare Parts

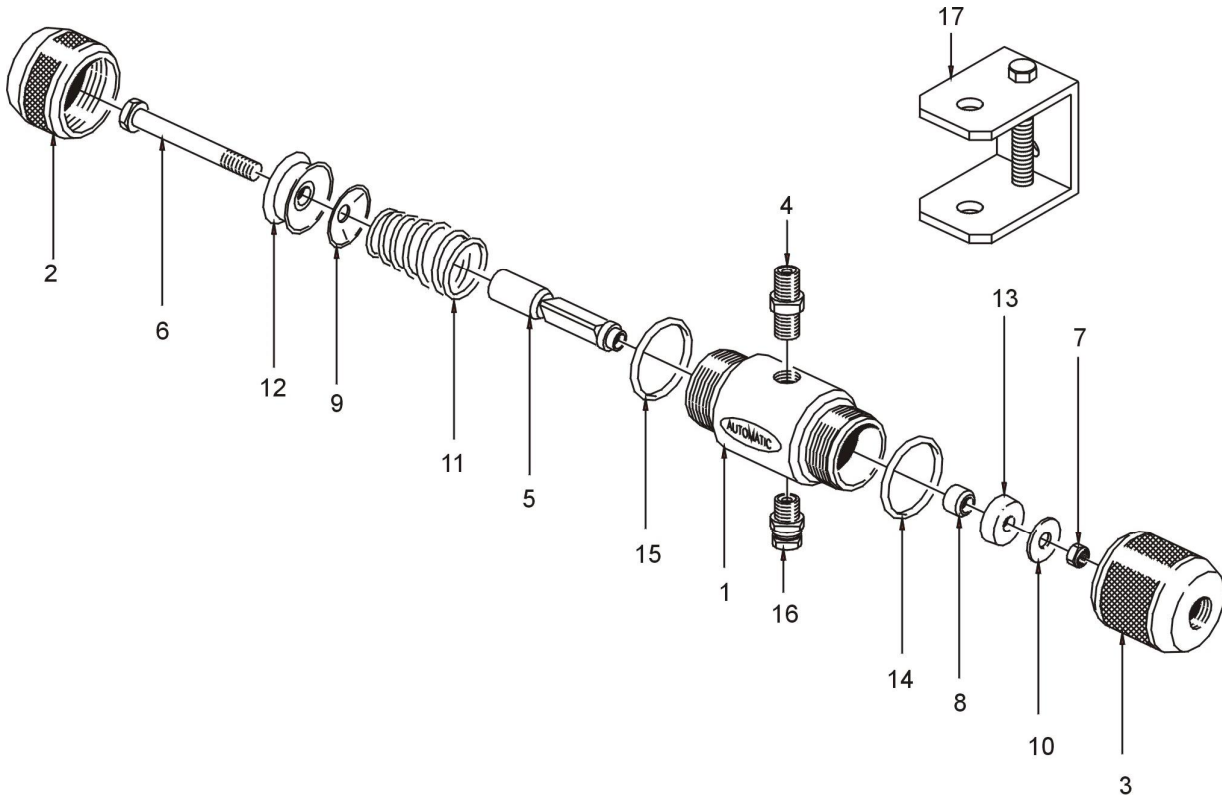


Figure 18 DumpMaster® XD-30 Drain Valve

DIMENSIONS: HEIGHT 49mm LENGTH 180mm

Item No.	Part No.	Description	Item No.	Part No.	Description
1	XD-01	Drain Valve Body	10	XD-10	Flat Washer
2	XD-02	Actuating End Cap	11	XD-11	Stainless Steel Spring
3	XD-03	Exhaust Cap	12	XD-12	Actuator Piston Seal
4	XD-04	1/4" NPT Brass Nipple	13	XD-13	Exhaust Seal
5	XD-05	Spindle	14	XD-14	O-Ring
6	XD-06	Bolt	15	XD-15	O-Ring
7	XD-07	Locknut	16	XD-16	Safety Drain Cock
8	XD-08	Spindle Collet	17	XD-17	Mounting Bracket
9	XD-09	Spring Retainer			



5.4. DumpMaster® XD-30 Drain Valve Overhaul Kit

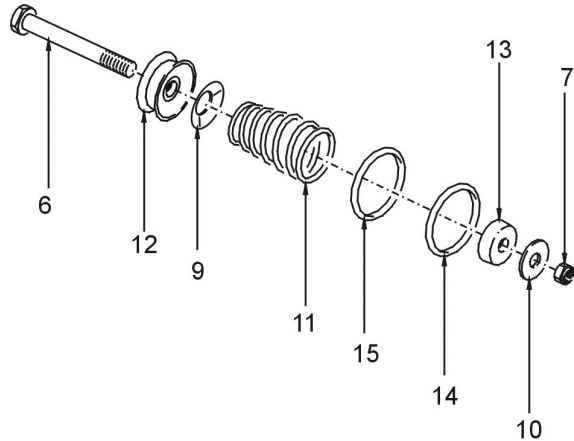


Figure 19 DumpMaster® Drain Valve Service Kit

DumpMaster® Drain Valve Service Kit XD-102			
Item No.	Part No.	Qty	Description
6	XD-06	1	Bolt
7	XD-07	1	Locknut
9	XD-09	1	Spring Retainer
10	XD-10	1	Flat Washer
11	XD-11	1	Stainless Steel Spring
12	XD-12	1	Actuator Piston Seal (Black)
13	XD-13	1	Exhaust Seal (Red)
14	XD-14	1	O-Rings
15	XD-15	1	O-Rings
.	.	1	Magnalube 4cc



5.5. EXT-50 Coil and Timer Overhaul Kits

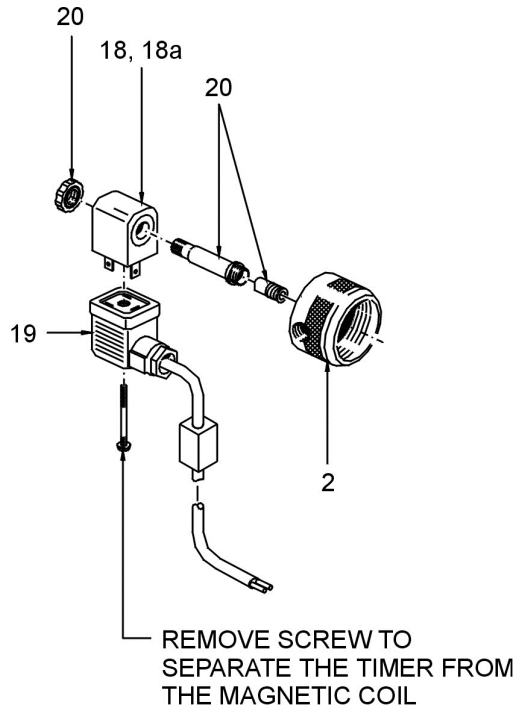


Figure 20 EXT-50 Coil and Timer Overhaul Kit

Coil and Timer Parts Combination Kits					
EXT-02-12V			EXT-02-24V		
Item	Part No.	Description	Item	Part No.	Description
2	EXT-02	Electronic Actuating Cap	2	EXT-02	Electronic Actuating Cap
18	MC-12V	Magnetic Coil	18a	MC-24V	Magnetic Coil
19	ET-12/24V	Electronic Timer	19	ET-12/24V	Electronic Timer
21	AMT-01	Armature Piston and Locknut	21	AMT-01	Armature Piston and Locknut



6. TROUBLESHOOTING

WARNING

**WHEN WORKING ON THE AIR SYSTEM ALWAYS CARRY OUT THE FOLLOWING PROCEDURES:
STOP THE ENGINE.**

BLOCK THE WHEELS. BLEEDING OFF AIR PRESSURE MAY CAUSE THE VEHICLE TO ROLL.

EXHAUST ALL AIR PRESSURE FROM THE AIR SYSTEM.

NEVER CONNECT OR DISCONNECT A HOSE OR LINE CONTAINING AIR PRESSURE.

NEVER REMOVE AIR-SYSTEM COMPONENTS OR FITTINGS UNLESS ALL AIR PRESSURE HAS BEEN EXHAUSTED.

DO NOT EXCEED WORKING AIR PRESSURE.

ALWAYS WEAR SAFETY GLASSES.

6.1. Emergency Breakdown

In the event of a failure or damage to an DumpMaster® XD-30 or EXT-50 Drain Valve simply carry out the following procedures:

1. Drain all compressed air from the air brake system.
2. Disconnect the air supply line from the DumpMaster® Drain Valve.
3. Remove the DumpMaster® Drain Valve from the TruckMaster® filter bowl.
4. Remove the drain cock from the bottom of the DumpMaster® Drain Valve.
5. Refit the drain cock to the bottom of the filter bowl.
6. Lock drain cock tap.
7. Close off all 1/4" (6mm) nylon tubing connected to DumpMaster® Drain Valve by any available means. Eg. (bent back and taped).
8. Re-build air pressure and drive vehicle to nearest service dealer for replacement part.

6.2. Loss Of Air Pressure In Compressed Air System

Check for air pressure leakage on all air lines and fittings with particular attention to:

1. Governor valve's reservoir port to wet tank reservoir (air pressure sensing line).
2. Compressor discharge port to inlet port of wet tank reservoir.
3. Wet tank reservoir discharge port to inlet port of TruckMaster® Filter.
4. TruckMaster® Filter outlet port to inlet port of air reservoirs.

6.3. Initial System Checks

Carry out the following checks of the air system before conducting component troubleshooting:

1. Examine all tubing for kinks or dents.
2. Examine all hoses for wear or overheating.
3. Check suspension of all tubing. It should be supported to eliminate vibration.
4. Check suspension of all hoses. Position so that hoses are not subject to excessive heat.
5. Switch on the ignition and confirm that the DumpMaster® Drain Valves operates after six minutes. If the DumpMaster® Drain Valve does not operate refer to Paragraph 6.5 or 6.6.



6.4. ETP-500 Series TruckMaster® Filter

PROBLEM	CAUSE	SOLUTION
1. Excessive water and/or oil by-passes the filter.	1. Filter requires servicing.	1. Service filter, check assembly of internal components. Refer Section 4 and Figure 15.
	2. Filter incorrectly installed.	2. Install the filter AFTER the wet tank. If the filter is fitted before the wet tank, a new Service Kit 505 should be installed after re-positioning the filter after the wet tank. Refer Section 3 and Figure 6.
	3. DumpMaster® Automatic Drain Valve (XD-30) not fitted to wet tank.	3. Install an DumpMaster® XD-30 Drain Valve on the wet tank. Refer Figure 6.
	4. DumpMaster® Drain Valves not functioning.	4. Refer Paragraphs 6.5 and 6.6.
	5. Leaking Compressor Intake Valve.	5. Check air compressor for leakage at Inlet Valve. Repair compressor and replace intake valve.
	6. Undersize Compressor.	6. Install larger displacement air compressor.
	7. Governor Valve faulty.	7. Check loading and unloading cycle of governor valve. Replace with new genuine governor valve.
	8. Air system leakage.	8. Check all tractor and trailer air system for air leakage.
	9. Worn Compressor.	9. Repair/replace air compressor.
	10. One way valve/check valve installed before wet tank.	10. Remove one-way (check valve).
	11. DumpMaster® Drain Valves actuating excessively.	11. Do not restrict Exhaust Port. a. Incorrect deflector fitted to drain exhaust port. Use only 3/8+NPT x 1/2+nylon tube. b. Governor valve faulty . repair/replace. c. Air system leakage - check air system for leaks.
2. Delayed air pressure build-up.	1. Filter may require servicing.	1. Service Filter, check internal component assembly. Refer Section 4 and Figure 15.
	2. Faulty Governor Valve.	2. Inspect, service and/or replace governor valve.
	3. Air system leakage.	3. Check all tractor and trailer air system for air leakage.
	4. One way valve (check valve) installed before wet tank.	4. Remove one way (check valve).
	5. Worn compressor.	5. Repair/replace air compressor.



PROBLEM	CAUSE	SOLUTION
	6. Filter incorrectly installed	6. Install the Filter AFTER the wet tank. If the filter is fitted before the wet tank, a new .Service Kit 505 should be installed after re-positioning the filter after the wet tank. Refer Section 4 and Figure 15.
	7. DumpMaster® Drain valves actuating excessively	7. Do not restrict Exhaust Port. a. Incorrect deflector fitted to drain exhaust port. Use only 3/8+NPT x 1/2+nylon tube. b. Governor valve faulty . repair/replace. c. Air system leakage.

6.5. DumpMaster® Electronic EXT-50 Drain Valve

The DumpMaster® EXT-50 Drain Valve features a solid state timer and heavy duty coil to eject contaminants every 6 minutes without reliance of compressor load factors or duty cycles.

PROBLEM	CAUSE	SOLUTION
1. DumpMaster® Drain Valve not functioning.	1. DumpMaster® Drain valve jammed.	1. Inspect and service using Service Kit XD-102.Refer Paragraph 4.2 and Figure 18.
	2. No constant air supply to pressure port (P).	2. Connect a constant air supply line from the secondary tank to the (P) port on the DumpMaster® EXT-50 Drain Valve. Refer Figure 6 and Figure 21 and Paragraph 3.1 Sub Paragraph 4.
	3. Auxiliary Port (A) open to atmosphere.	3. Connect a 1/4+(6mm) air line to DumpMaster® XD-30 drain valve on wet tank or plug with 1/8+NPT plug if DumpMaster® XD-30 drain valve is not fitted. Refer Figure 6 and Figure 21 and the Note in Paragraph 3.1 Sub Paragraph 4.
	4. No Power/Low Voltage.	4. Check for constant live and correct voltage at timer lead connection BROWN wire positive (+), BLUE wire negative (-). Refer Figure 21.
	5. Incorrect magnetic coil voltage.	5. Install with correct voltage magnetic coil. Refer to Figure 17.
	6. Faulty timer or Magnetic Coil.	6. Test magnetic coil. Refer to Paragraph 6.7 and Figure 17 and Figure 20. If DumpMaster® drain valve actuates, fit new timer.
2.	1. No constant air supply to pressure port (P).	1. Disconnect air line and re-connect to Pressure Port (P). Refer Paragraph 3.1, sub paragraph 4 and Figure 6 and Figure 21.



6.6. DumpMaster® Automatic XD-30 Drain Valve

The DumpMaster® Automatic XD-30 Drain Valve is governor valve actuated and relies on compressor cut-in/out cycle times for operation.

PROBLEM	CAUSE	SOLUTION
1. DumpMaster® Drain Valve not working.	1. DumpMaster® Drain valve internals jammed.	1. Inspect and service using Service Kit XD-102. Refer Paragraph 4.2 and Figure 18.
	2. Governor valve faulty.	2. Inspect, service/replace governor valve.
	3. ¼+(6mm) actuation air line connected to wrong port on governor valve.	3. Re-connect to unloader port on governor valve.
2. DumpMaster® Drain Valve valve actuates too frequently.	1. Incorrect deflector fitted to DumpMaster® Drain Valves exhaust port.	1. Use only 3/8+BSP elbow x ½+ OD tube. Refer Refer Figure 6. Also refer to Warning in Section 3 - Installation.
	2. Governor valve faulty.	2. Inspect, service/replace governor valve.
	3. DumpMaster® XD-30 Drain valve upper brass nipple not original equipment.	3. Use only special hex nipple (XD-04) with 4.7mm bore.
	4. Air pressure loss in air braking system.	4. Check tractor and trailer air system for leaks.
	5. Compressor intake valve leaking/ faulty.	5. Service/ repair compressor.



6.7. DumpMaster®EXT-50

Carry out the following procedures to override the Timer (refer Figure 21):

1. Remove the silicon from timer plug.
2. Unscrew timer plug screw.
3. Pull timer plug from magnetic coil.
4. Connect two wires from a battery to the two parallel terminals protruding from the magnetic coil.
5. The DumpMaster® Drain Valve should immediately actuate upon connecting wires to magnetic coil terminals.

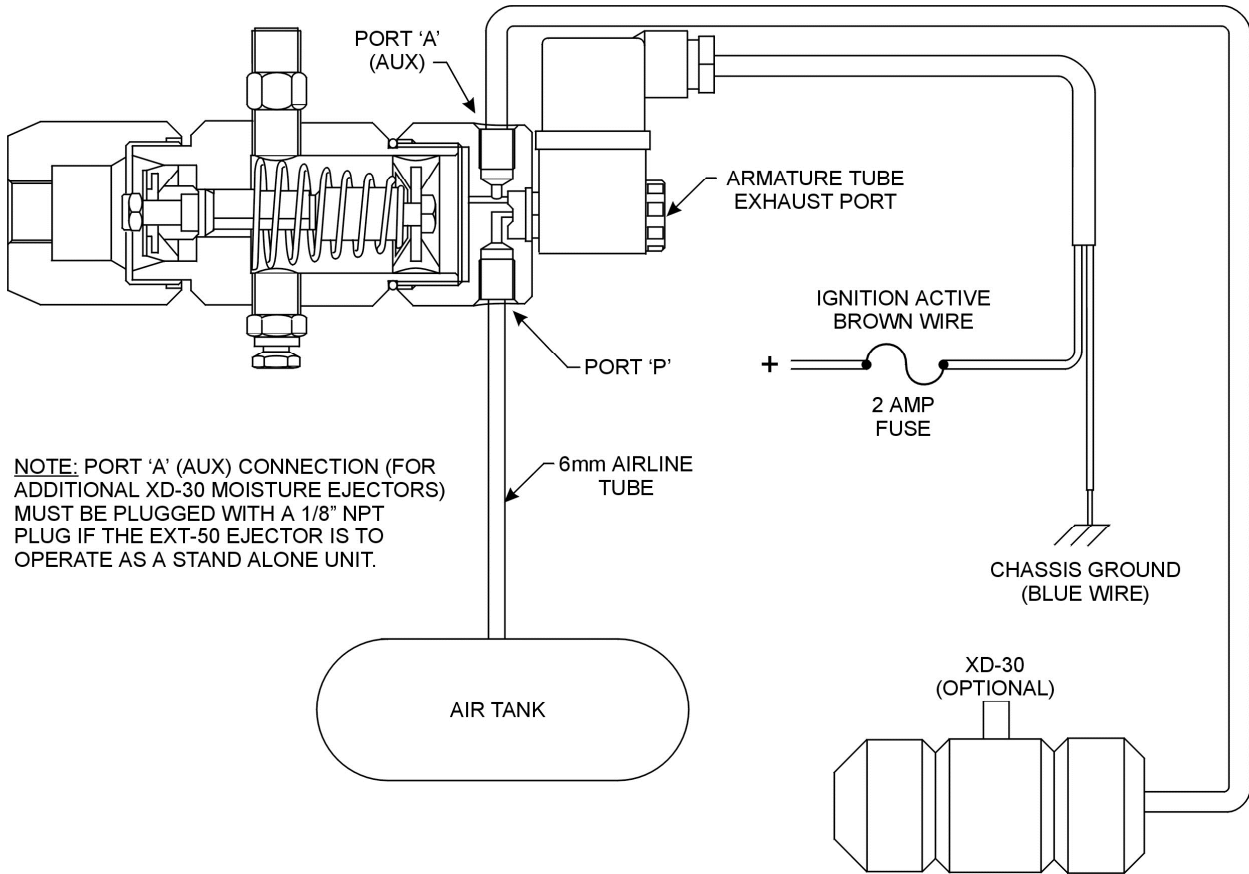


Figure 21 DumpMaster® Drain Valve Wiring Diagram