



Installation and User Manual

Product:	TJM Vehicle Mount Compressor
Vehicle:	Generic
Part No.	013COMPVHD

TJM Vehicle Mount Compressor



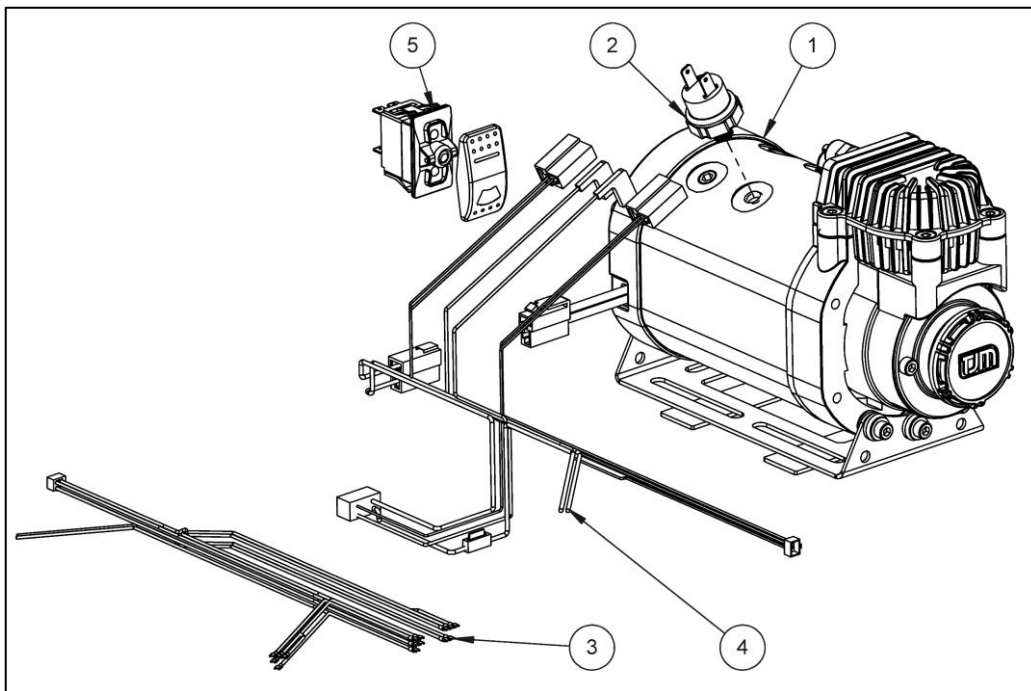
- Before commencing fitment read instructions and ensure all listed components are supplied.
- It is a condition of the warranty that the product has been correctly installed by suitably qualified personnel and is used in accordance with accompanying instructions where provided. For product warranty please refer to our website www.tjm.com.au
- Estimated Fitting Time: 2 hrs
- Treat any holes drilled into the vehicle body with rust preventative paint.
- Always place the product on a soft workspace to prevent damage prior to installation.
- Do not mount compressor below the water-wading line of the vehicle. Refer to the vehicle manufacturer for this specification.
- Compressor surface becomes **very hot** during operation. Mount away from flammable materials and avoid locations where it may be accidentally touched while operating.
- Rated for 12 V DC systems only.

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1.0 Compressor Specifications



1.1 Bill of Material

Item No.	QTY	Part Number	Description
1	1	F-17615	Compressor
2	1	013COMPVPS120-90	Pressure Switch
3	1	F-14002	Wiring Harness – Cabin
4	1	F-17799	Wiring Harness – Engine Bay
5	1	013COMPVACTSWITCH	Compressor Activation Switch Kit

1.2 Electrical Specification

Voltage	12 V DC
Current Draw (0 Bar / 0 PSI)	26 A
Current Draw (200 kPa / 29 PSI)	33 A
Fuse Type and Rating	Maxi 40 A
IP Rating	54
Motor thermal cut-off	105°C

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1.3 Performance

Air flow (0 Bar / 0 PSI)	86 LPM / 3.0 CFM
Air Flow (200 kPa / 29 PSI)	66 LPM / 2.3 CFM
Duty Cycle (80 PSI, 60 minutes @ 23°C)	100 %
Pressure Switch Operation	Off @ 120 PSI / On @ 90 PSI
Safety Relief Valve Opening Pressure	1070 kPa / 155 PSI

1.4 Hardware and Fittings

Pro Locker Solenoid / Pressure Switch ports	6 x 1/8" BSPT ports (3 each side of air tank)
Tyre Inflation / Accessory ports	2 x 1/4" BSPT ports (1 each side of air tank)
Safety Relief Valve	Factory-set 155 PSI, 1/8" NPT male thread
Compressor to Bracket Bolts (Included)	6 x M5 x 15 Socket-head Cap screw
Base-plate to Vehicle Bolts (Not Included)	4 x M6 or M8 bolts and nuts

1.5 Recommended Fastener Torque Settings

M5	9.5 Nm
M6	16 Nm
1/8" BSPT	15 Nm
1/4" BSPT	20 Nm

2.0 Compressor Assembly

2.1 Accessory Installation

Installation Conditions:

The 12 V solenoid shown is supplied with the TJM Pro Locker.
The 1/4" BSPT hose fitting shown is supplied with the TJM Airline Kit



3 x 1/8" and 1 x 1/4" ports shown.
Additional ports on opposite side of air tank.

- Determine the desired mounting configuration for the compressor and select the desired outlet ports for the accessories – there are 8 available outlet ports in total.
 - To fit the Pressure Switch and Pro-Locker solenoids, remove one of the 1/8" BSPT plugs in the air tank using a 5mm hex key.
 - To fit the TJM Airline Kit, remove one of the 1/4" BSPT plugs in the air tank using a 6 mm hex key.
- If necessary, remove the safety relief valve to provide space for the accessory fitment.



- Apply sealant paste (e.g. Loctite 567) or sealant tape to one end of the threaded fitting of the accessory.
- Insert accessory into the air tank port and tighten.
- Recommended installation positions are shown in the figure.
If the safety relief valve was removed, apply sealant paste or sealant tape and re-install the valve to the same port.

Notes:

DO NOT over-tighten, may cause damage to thread.

If using a thread sealant allow curing time according to the manufacturer specification.

2.2 Air Filter Installation

Installation Conditions:

Ensure filter is assembled in a dry working environment.



- Each compressor has a two-stage air filter supplied loose which must be installed prior to operation.
- Remove the protective plug from the compressor inlet port.



- Screw the filter housing into the port.

Hand tighten only.



- To replace the filter elements, pull the outer cover from the air filter assembly.
- Remove the foam and felt elements and replace.
- Press the outer cover back into place, ensure that the clips on the housing are aligned to make a secure fit.

Notes:

Check the Air Filter elements at frequent intervals. If Air Filters become damaged, wet, or dirty, DO NOT use the compressor until air filters are replaced. Contact a TJM Distributor for service.

3.0 Vehicle Mounting

3.1 Mounting Location

When deciding an appropriate place to mount the compressor within the vehicle, consider the following:

- Avoid proximity to heat sources;
- Avoid exposure to direct sunlight;
- Avoid mounting in areas which are submerged during a water crossing;
- Ensure that the air filter inlet has access to cool, dry air;
- Compressor will become hot when used, ensure it is out of reach of children or pets, and away from flammable materials.

3.2 Compressor Mounting

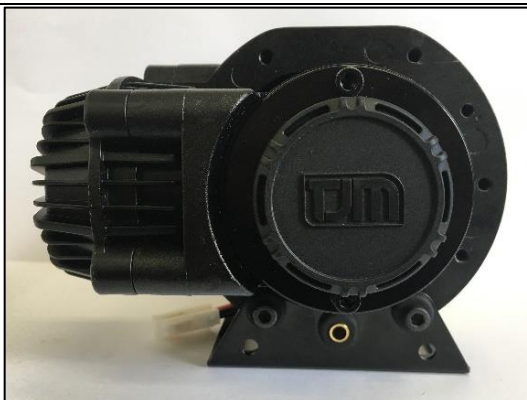
Compressor Configurations

The compressor can be mounted at 5 angles to suit the available space:
Vertical (as-supplied), at 30° from vertical, or horizontal.
This adjustment can be made before or after installation in the vehicle.





- Using a 4 mm hex key, remove the 6 x M5 x 15 mm mounting screws and washers between the compressor and base plate (3 x front and 3 x rear).
- Remove the compressor from the base plate
- Remove 2 x M5 x 10 mm screws from the fan cover on the desired mounting side and fasten them into the threaded holes previously used for the base plate.



- Reposition the compressor and fasten the M5 x 15 mm screws – for horizontal installation the centre rubber isolators do not take screws.
- Ensure the washers are fitted between the screw and rubber isolator.



- It is possible to undo the screws on one side of the compressor and rotate the body of the compressor to give better access to the base-plate.
- After securing the base-plate the screws must be re-installed.

Securely Mounting the Compressor


- Place the bracket on the desired mount location and mark the position of 4 holes for mounting fasteners.
- Drill 4 x 6.5 mm (for M6 bolts) or 8.5mm (for M8 bolts) holes on the marked locations. Do not drill greater than 9 mm.
- Fit the backing plates (supplied loose in the compressor box), if required to support the underside of the mounting surface.
- Secure the base-plate and backing plates to the vehicle using M6 or M8 bolts, spring washers and nuts (not included with the compressor).

If using M6 bolts, ensure the washers adequately cover the base-plate surface.

3.3 Mounting Actuator Switches

Compressor and Actuator switches should be mounted in a position best suited to the driver, consider the following:

- Switches must be hard mounted and never hanging from the wiring alone;
- Switches should be easily seen and accessible to the driver;
- Ensure that the switches are out of the way of accidental activation by passengers or driver;
- Switches should be mounted away from potential exposure to water; and
- Enough room should be left behind the mounting face to fit the switch and wiring.

Installation Conditions:	
The Pro Locker actuator switches are supplied with the Pro Locker.	
	<ul style="list-style-type: none"> ○ Create 21 mm x 41 mm rectangular cut-out for each switch. ○ Securely snap switches into position. ○ When wired according to Figure 1, the switch will illuminate Green when the dash lights are ON, and Red when the compressor is ON.

4.0 Wiring the Compressor System

4.1 Connecting Wiring System

Installation Conditions:
<p>Installation following this diagram requires the Rear Locker to be active to select the Front Locker. This prevents unexpected handling changes from accidental Front Locker activation. TJM recommends wiring the Red/Yellow +12 V wire to the Ignition circuit to reduce likelihood of compressor draining the battery. It is possible to wire to the Accessory circuit instead.</p>
<ul style="list-style-type: none"> ○ Using the wiring diagram depicted in Figure 1, plug the correct coloured female terminals to the appropriate switch terminal. ○ Locate an accessory outlet or power outlet that supplies 12 V DC and is powered when the vehicle ignition key in the “ACC” or “ON” position. ○ Using an automotive quality connectors or soldering iron, splice the Red/Yellow wire to the positive (+) wire on the chosen source. Insulate the connection to prevent possible short circuit. ○ Locate an active dash light 12 V supply wire. ○ Using an automotive quality connectors or soldering iron, splice the Blue/White wire to the active dash light supply wire. Insulate the connection prevent possible short circuit. ○ Route the remainder of the wiring loom to the compressor. ○ Plug the 2, singular female flag-connectors to the pressure switch (the order of the connectors does not affect operation).

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- Plug the dual solenoid connectors into the loom; the yellow and black connector to the Rear Locker Solenoid, and the green and black connector to the Front Locker Solenoid.
- Plug the compressor motor connector into the Red/White and Black loom connector.
- Fit ring terminals the ends of the Red and Black 10 AWG wires.
- Connect the red wire to the battery positive terminal, and the black wire to the battery negative terminal.
- Secure the loom to the vehicle at regular intervals to prevent wear.

Notes:

If additional wire is required to reach the battery, use 10 AWG wire or larger.

4.2 Electrical Diagram

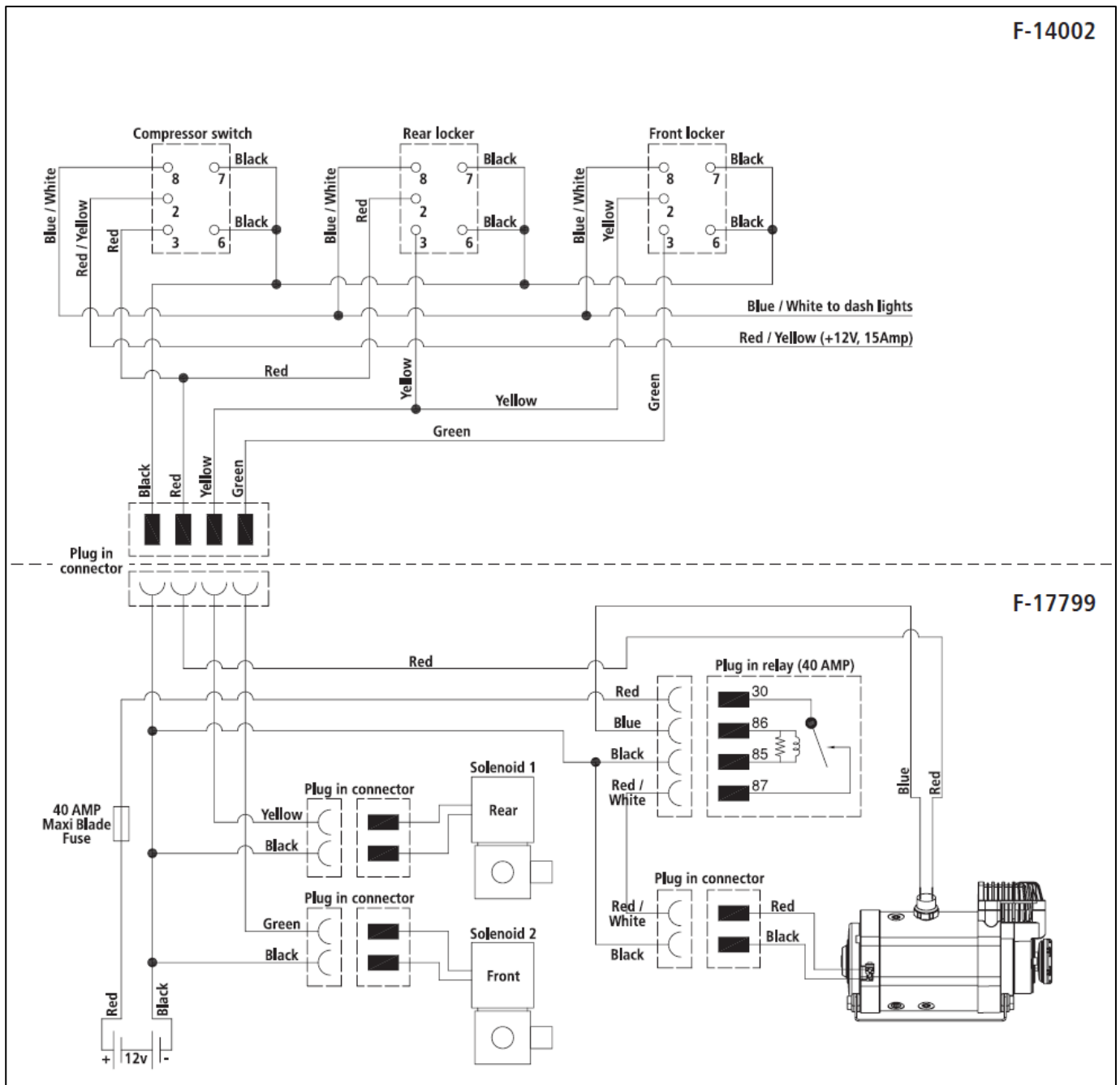


Figure 1: TJM Vehicle Mount Compressor Recommended Wiring Diagram

5.0 Post- Installation Examination

5.1 System Testing

Leak Testing

Complete the following test with the vehicle in park and the engine off.

- Turn on the compressor on.
- The compressor air tank will fill to reach operating pressure.
- Wait for the Pressure Switch to turn off the compressor at 120 PSI.
- Monitor the time. **The compressor should not reactivate within a period of 10 minutes.**

NOTE: If the compressor refills in this time frame, there is a leak in the system. Complete the following to determine and control the source of the leak.

- While the compressor is pressurised, spray soapy water on all the air fittings.
- Bubbles will appear at the source of the leak.
- De-pressurise the system.
- Re-tighten the leaking fitting/s and repeat leak test.
- If leaking continues, remove fittings, reapply sealant, and then re-assemble.

5.2 Post installation checklist

- Compressor operational check completed.
- Leak Test completed.
- Compressor safely mounted using appropriate hardware.
- Wiring Loom installed according to the TJM Diagram.
- Air lines securely installed.
- Switches hard-mounted to dash and out of reach of accidental activation.
- Switches function and illuminate correctly.

Checked By: _____

Date: _____

6.0 Operating Instructions

6.1 Pro Locker activation

- Switch on the compressor from the actuator switch.
- The compressor will pressurise to 120 PSI and then automatically switch off.
- Use the Pro Locker actuation switches to engage and disengage the Lockers as needed.
- When system pressure drops below 90 PSI the compressor will automatically switch on.
- After use switch off both the Locker switches and the compressor switch.

6.2 Tyre inflation

- Connect the hose for tyre inflation to the compressor using the ¼" BSPT port with a quick-connect fitting (supplied in TJM Airline Kit).
- Switch on the compressor from the actuator switch.
- The compressor will pressurize to 120 PSI and then automatically switch off.
- Connect the tyre chuck to the tyre valve to inflate. The compressor will automatically restart to supply air once the tyre is connected.
- Check desired pressure is reached using a tyre pressure gauge. Note: measure the pressure with no air-flow to the tyre for accurate reading.
- After use switch off the compressor.

6.3 Safety information

- The compressor will become **very hot** during use. Do not touch the working end of the compressor during or immediately after use. Wear gloves when changing the hose connection.
- Always ensure air pressure in the compressor is discharged before installing hoses and fittings or undertaking maintenance.
- Do not operate the unit without the safety relief valve installed.
- Never blow compressed air directly at people or pets. Compressed air can blow dirt particles into the atmosphere which can irritate the skin, eyes and/or respiratory system.
- Do not use the compressor without mounting to a solid surface.

6.4 Operation Guide

- The compressor is designed for individual use, not for commercial or industrial applications.
- The compressor is fitted with a thermal cut-off switch. This switch protects the motor from overheating. If the compressor cuts-out, turn off the power switch and allow the compressor to cool for at least 45 minutes before attempting to restart.
- The compressor duty cycle is rated at 23°C. Higher ambient temperature will reduce the duty cycle.
- The duty cycle is rated over a 60-minute operating period. The compressor is not rated to run continuously beyond the specified duty cycle.
- TJM recommends using the compressor while the vehicle engine is running.
- Discharged air will contain moisture due to air humidity. When using the compressor in conjunction with an on-board air tank, TJM recommends installing a moisture trap before the air tank inlet and/or fitting the air tank with a drain valve.
- The compressor is fitted with a safety relief valve, set at factory to 155 PSI. The valve can also be manually opened to discharge air pressure by pulling on the ring at the top of the valve.

Safety Relief Valve



- The safety relief valve can be manually actuated by pulling on the ring at the top of the valve.
- Valve may be hot – use gloves while operating valve.
- **DO NOT** operate the compressor without the relieve valve installed.

7.0 Maintenance

Always ensure that the pressure in the compressor has been discharged before commencing.

7.1 Routine Maintenance

- Periodically inspect and replace the air filter. Blocked air filters significantly reduce compressor performance. Never run the compressor without a filter – this will reduce the life of the compressor.
- Periodically check fittings and airlines for leaks.
- Periodically inspect mount bolts to ensure that they remain tight.
- Periodically check the safety relief valve – ensure air is released when the manual override is pulled.

Note: The compressor does not use oil lubrication – there is no requirement to check / fill oil.

7.2 Replacement Parts

The major components of the compressor are designed to be maintenance-free for the life of the unit. The following parts are available for servicing requirements:

- 013COMPVFILTER01 - Filter housing and element combined kit
- 013COMPVFILTER02 - Filter housing kit to replace housing only
- 013COMPVFILTER03 - Filter element kit
- 013COMPVACTSWITCH - Replacement activation switch kit
- 013COMPVMOUNTKIT – Replacement rubber isolator and bolt kit
- 013COMPVSRV155-18N – Safety relieve valve 155 PSI, male 1/8" NPT
- 013COMPVPS120-90 – Pressure switch OFF 120 PSI / ON 90 PSI

7.3 Troubleshooting Guide

Problem	Possible Cause	Resolution
Compressor does not run	Thermal cut-off switch active	Switch off power, wait 45 minutes for compressor to cool, restart.
	Wiring Fault	Check that wiring has been connected according to diagram. Check power switch illuminates green with dash lights and red when switched on.
	Fuse blown	Replace 40 A Maxi blade fuse.
	Relay blown	Test with another relay and replace if required
	Faulty pressure switch	Check for voltage at relay terminal 86. Replace switch if required.
Compressor switches on and off frequently	Air leakage	Check all air lines and fittings for leaks.
Compressor does not switch off at 120 PSI (observe relief valve opens while running)	Faulty pressure switch	Replace pressure switch.
Compressor air flow lower than normal	Blocked air filter	Inspect air filter and replace if dirty.
Unusual noise or vibration	Worn isolators	Replace isolators.
	Loose mounts	Tighten all mount bolts.

This is a basic guide for field troubleshooting only. If the compressor does not operate after taking these steps, refer to a TJM distributor.