



Installation and User Manual

Product:	TJM Pro Series Single Air Compressor
Vehicle:	Generic
Part No.	013COMPVPROSAA



86 / 3.0
LITRES
PER MINUTE CUBIC FEET
PER MINUTE



100
PERCENT
DUTY CYCLE



3YR
3 YEAR
WARRANTY

- 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.
- Holes drilled for cable routing should have a suitable sized rubber wiring grommet installed. This will prevent damage to the cables.
- 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.
- Images are for reference only and may vary slightly from actual product.

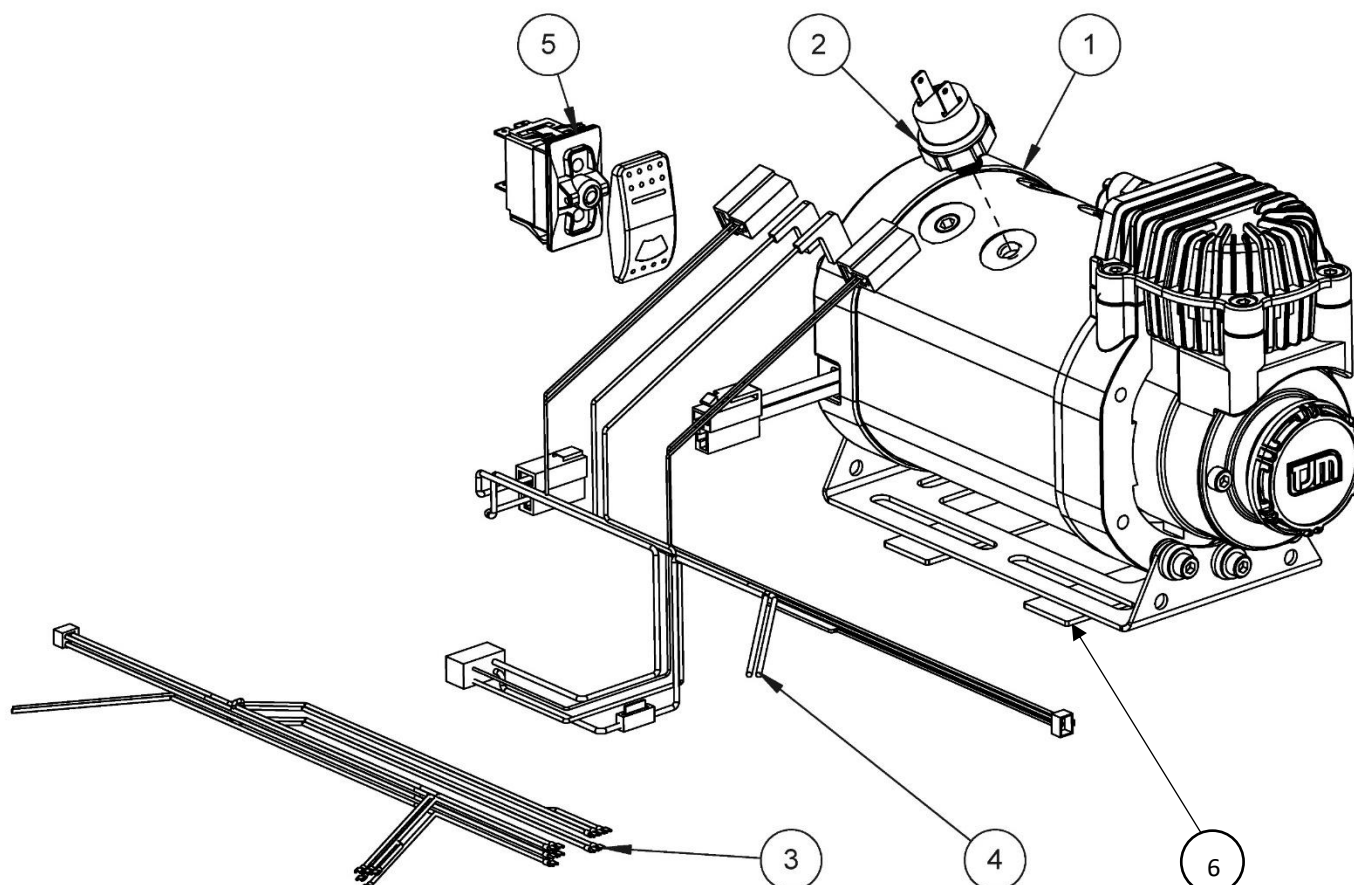
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1.0 Compressor Specifications

1.1 Exploded View



1.2 Bill of Materials

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
6	2	F-25479	Bracket Backing Plate

1.3 Electrical Specification

Voltage	12 V DC
Current Draw (0 Bar / 0 PSI)	26 A
Current Draw (2 Bar / 29 PSI)	33 A
Fuse Type and Rating	ANS 40 A
IP Rating	54
Motor thermal cut-off	105°C

1.4 Performance

Air flow (0 Bar / 0 PSI)	86 LPM / 3.0 CFM
Air Flow (2 Bar / 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

1.5 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 22 Socket-head Cap screw
Base-plate to Vehicle Bolts (Not Included)	4 x M6 or M8 bolts and nuts

1.6 Recommended Fastener Torque Settings

M5	5 Nm + / - 10%
M6	9 Nm + / - 10%
1/8" BSPT	5 - 6 Nm
1/4" BSPT	6 - 8 Nm

2.0 Compressor Assembly

2.1 Accessory Installation

The 12 V solenoid shown is supplied with the TJM Pro Locker. **The 1/4" BSPT hose fitting shown is supplied with some accessory kits which can be purchased separately.**



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 6mm 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.
- If using a thread sealant, allow curing time according to the manufacturer specification

NOTE: DO NOT over-tighten. This may cause damage to thread.

2.2 Air Filter Installation

Ensure filter is assembled in a dry working environment.



- The 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.

NOTE: 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.

NOTE: 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

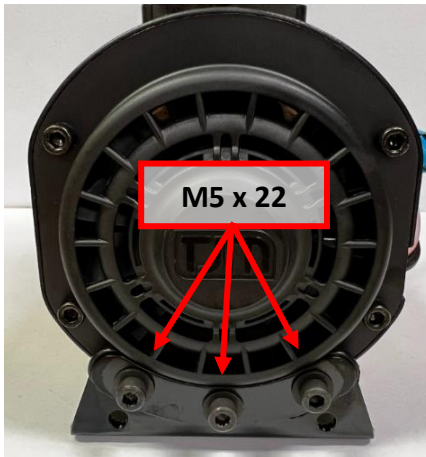
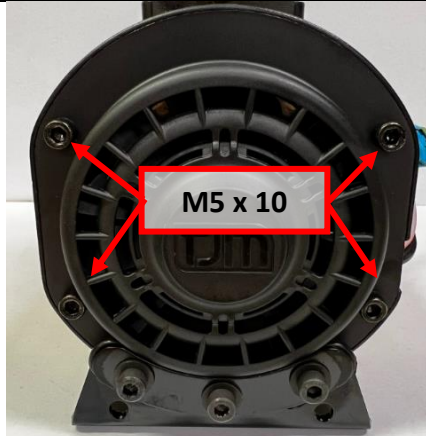
3.1 Mounting Location

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

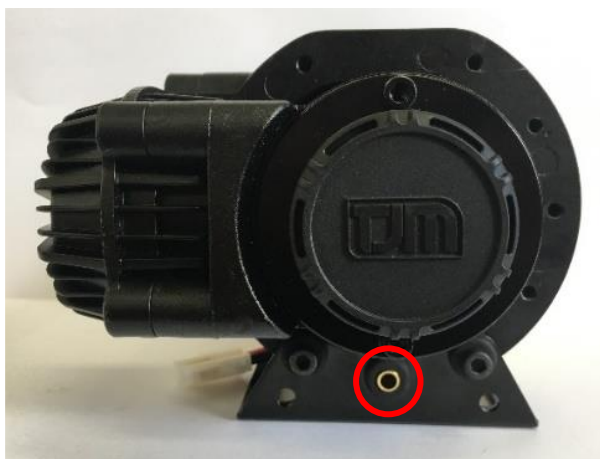
- The mounting location of the compressor. There must be a minimum of 10mm clearance from the Air Filter surface & a minimum of 15mm clearance from the fan housings of the compressor.
- Avoid proximity to heat sources.
- Avoid exposure to direct sunlight.
- Avoid mounting in areas which are submerged during a water crossing.
- Ensure that the air filter inlet has access to cool, dry air.
- Ensure there is adequate clearance for air flow to the air filters and from the compressor exhaust fans.
- Compressor will become hot when used, ensure it is out of reach of children or pets, and away from flammable materials.
- The compressor should be mounted only on rigid panels with a thickness of no less than 1.5mm.
- The bracket backing plates (F-25479) may be used for additional rigidity and shall be used if mounting to a panel less than 2.0mm thick.
- Before installation, consider the location of the 2 Pin connectors.

3.2 Compressor Mounting

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.



- To reposition the mounting location, identify the two (2) M5 x 10mm screws the new bracket position will occupy on the fan cover side and remove. (For clockwise rotation, remove the two screws on the right side of the fan cover).
- Using 4mm hex key remove the six (6) M5 x 22mm mounting screws and washers (three (3) front and three (3) rear).
- Remove the compressor from the base plate and rotate to the new position.
- Locate the new screw hole positions and fasten using the previously removed two (2) M5 x 10mm screws.



- Reposition the compressor, apply some silicone grease between the rubber isolator and compressor to assist assembly.
- Fasten the M5 x 22 mm screws for horizontal installation. The center rubber isolators do not take screws.
- Ensure the connecting plate and washers are fitted between the screw and rubber isolator.

3.3 Securely Mounting the Compressor

Consideration must be applied when selecting the mounting configuration to ensure there are enough clearances for the compressor components and any accessories fitted.



- 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 baseplate.
- After securing the baseplate the screws must be re-installed.

- Place the bracket on the desired mount location and mark the position of 4 holes for mounting fasteners.
- Drill 4 x 6.5mm (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 bracket backing plates (F-25479) 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.

4.0 Wiring the Compressor System

4.1 Electrical Diagram

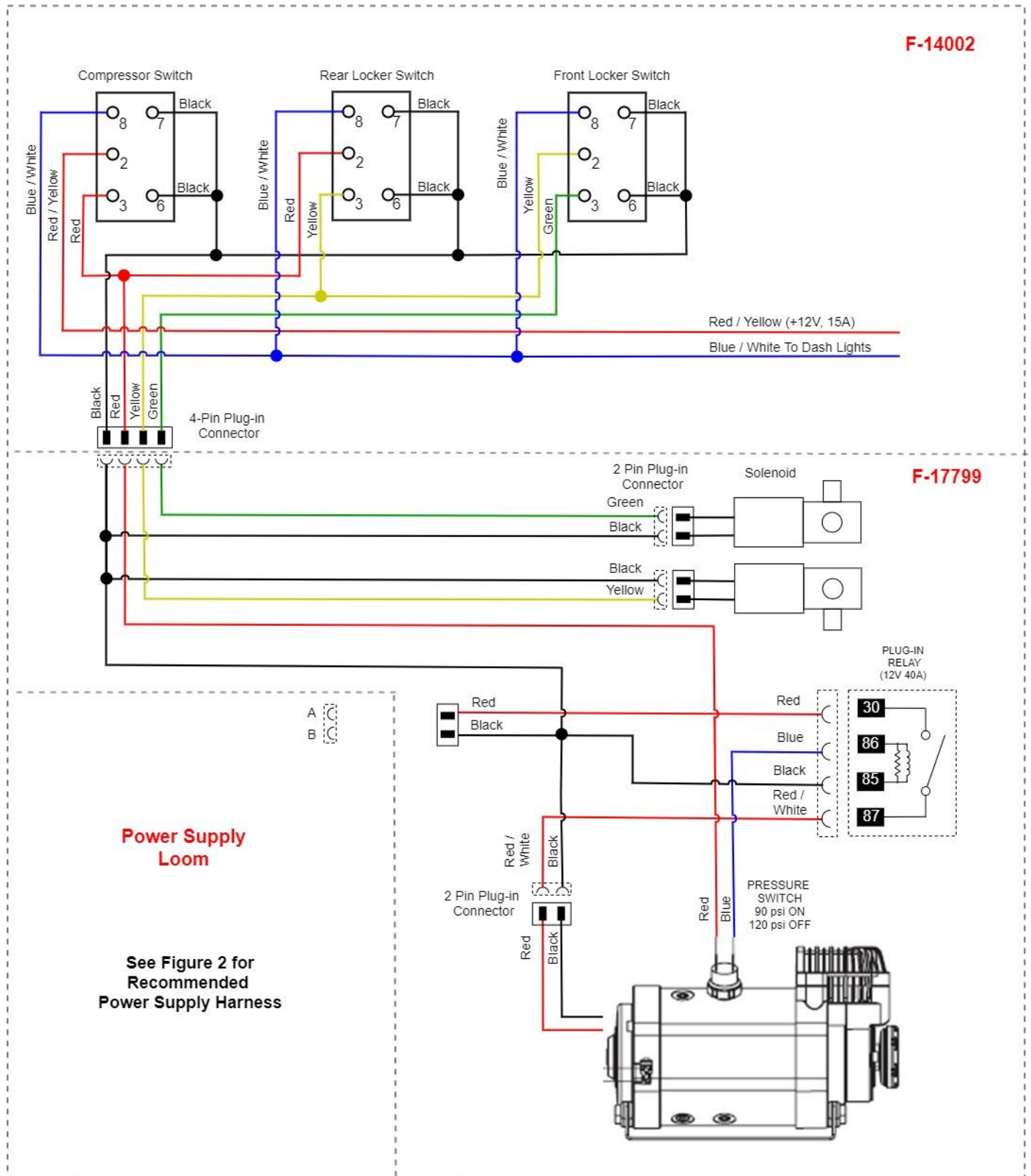
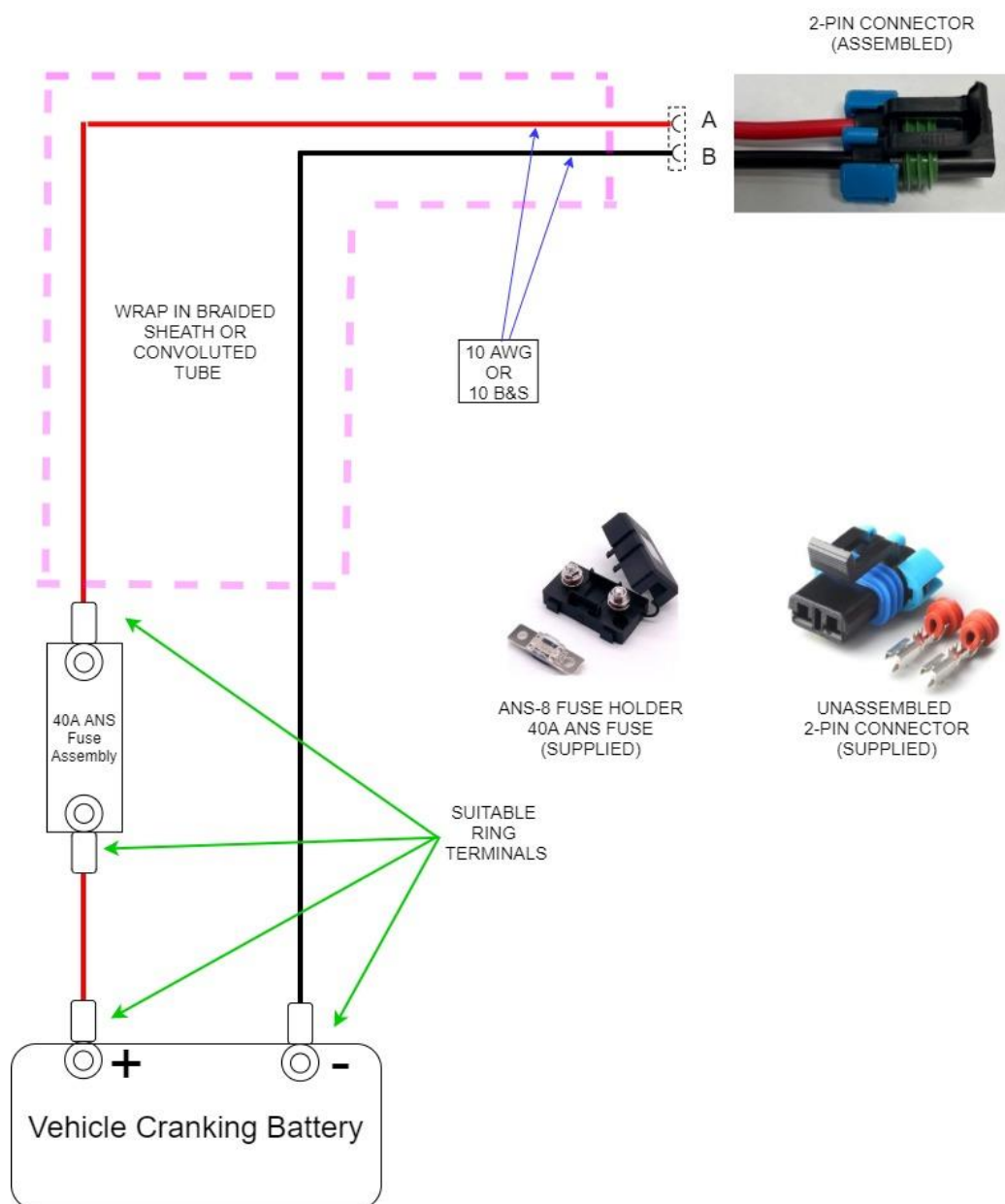


Figure 1: TJM Vehicle Mount Compressor Recommended Wiring Diagram



NOTE:

- * CABLES, RING TERMINALS, SHEATHS and HEAT SHRINK ARE **NOT** SUPPLIED
- * ALL ELECTRICAL WORK MUST BE CARRIED OUT BY AUTHORISED PERSONELL

Figure 2: Suggested Power Harness Configuration

4.2 Connecting Wiring System

- Using the wiring diagram (F-14002) 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.
- TJM recommends wiring the Red/Yellow +12 V wire to the Ignition circuit to reduce likelihood of compressor draining the battery.
- Using an automotive quality connector 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 connector or soldering iron, splice the Blue/White wire to the active dash light supply wire. Insulate the connection to prevent possible short circuit.
- Route the remainder of the wiring loom to the compressor and plug the F-14002 & F-17799 4 Pin connectors together.
- Plug the 2, singular female flag-connectors to the pressure switch (the order of the connectors does not affect operation).
- If installing Pro Locker activation, plug the 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.
- The TJM Pro Series compressor is not supplied with a power supply harness, refer to Figure 2 for the recommended 12V power supply installation. A male connector and 40A ANS fuse are supplied. The power supply harness must be fabricated by suitably qualified personnel.
- Plug the power supply harness into the F-17799 loom connector.
- 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.

4.3 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.
- Enough room should be left behind the mounting face to fit the switch and wiring.

Note: The compressor power switches are supplied with the Pro Locker.



- 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.



- Alternatively, if Pro Lockers are not used of the compressor isolator switch is desired to be installed elsewhere, a TJM Fascia Panel (013COMPDFMK) may be used to mount the compressor isolator switch.
- Additionally, a standard 52mm Pressure Gauge, 2x airbag Schrader valves and an outlet port can also be installed on the panel.
- It is suggested to mount the panel onto the side fascia of the drawer system.

5.0 Post- Installation Examination

5.1 Leak Testing

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

1. Turn on the compressor on.
2. The compressor air tank will fill to reach operating pressure.
3. Wait for the Pressure Switch to turn off the compressor at 120 PSI.
4. 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.

1. While the compressor is pressurised, spray soapy water on all the air fittings.
2. Bubbles will appear at the source of the leak.
3. De-pressurise the system.
4. Re-tighten the leaking fitting/s and repeat leak test.
5. 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: _____

5.3 Post Installation notes:

6.0 Operating Instructions

6.1 Pro Locker Activation

- Switch on the compressor from the actuator switch.
- The compressor will pressurise to approximately 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 pressurise 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. Operating the compressor with the vehicle engine off can rapidly drain the battery.
- 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. It is recommended to discharge the air system after using the compressor.

Safety Relief Valve	
	<ul style="list-style-type: none"> ○ 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 relief 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 Troubleshooting Guide

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

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.

7.3 Serviceable Components

There are several serviceable components fitted to the compressor. These components include the pressure switch, the copper connecting tube, compression fittings and relays. All these items are located under the top cover.

NOTE: It is recommended that all serviceable components be serviced by suitably qualified personnel

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 relief valve 155 PSI, male 1/8" NPT

013COMPVPS120-90 – Pressure switch OFF 120 PSI / ON 90 PSI