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ENGINEERING (AUST) PTY LTD

Specializing in Mining Equipment

11600S SERVICE TRUCK Operation Manual



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SECTION 1 - Forewards

This Operations Manual outlines and explains the operation of the Service Module. This manual is designed to provide you with the information required as a guide for the safe and effective operation of this product.

It is important that you take the time to read this manual and familiarise yourself with the safety warnings and notices enclosed. It is your responsibility to ensure that these warnings and notices are adhered to during operation of this product. Failure to do so may result in harm or injury to personnel and/or damage to the product.

This manual covers a broad range of product models; there may be certain aspects of your product which, due to additional options, may not be specifically covered within this manual. Alternatively some options included in this manual may not be fitted to your product.

This manual is to be used in conjunction with other operation manuals specific to components fitted to this product and the vehicle the product is mounted on. These additional operation manuals are referenced where applicable. It is important that all operation manuals supplied with this product are kept together and stored in the vehicle for reference as required.

All information and advice in this manual was current at the time of printing. However, because of ORH Engineering's policy of continual product improvement, ORH Engineering reserves the right to make changes without notice. ORH Engineering may void any applicable warranties if any modifications are made to the product without prior approval from ORH Engineering.

If you require any additional information on the safe and effective operation of this product please contact ORH Engineering on (08) 9477 1788

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SECTION 2 - Service Truck Overview



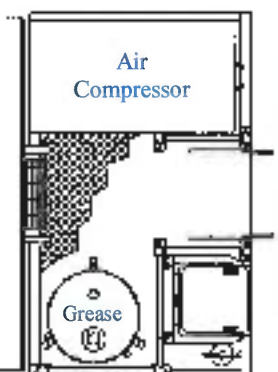
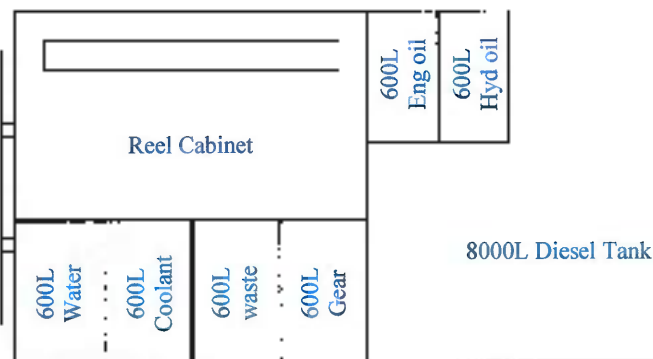
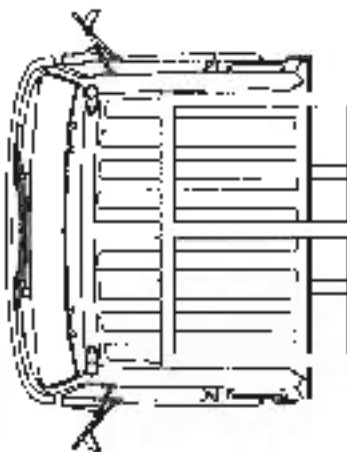
Driver Side



Passenger Side



Rear View



Plan View

SECTION 3 - Warning Symbols & Safety Precautions



This Warning / Caution symbol is used throughout this manual to alert the user that the associated task or operation may have risks and dangers associated depending on the application. Where shown the symbol will include comments to be used as a guide to reduce operational risk. Each task will have its own unique risks and the user must ensure that these risks are identified and adequate controls implemented to reduce the risk to an acceptable level wherever practicable.



This symbol is used on the module to highlight the risk of suffocation of entering tanks. The interior of the tanks are classed as **CONFINED SPACES** and entering the tank, could lead to serious injury or death. If work must be conducted inside the tank all persons must hold the relevant Confined Spaces certification.



This symbol indicates that correct lifting equipment should be attached to the module if the module is to be lifted from the vehicle. Ensure the correct lifting equipment is used including spreader bars. Failure to use the correct lifting equipment and/or attaching at points other than those designed for the task may result in injury or damage to the module. Consult ORH Engineering if further information is required on the correct lifting method.



This symbol is used on the module to highlight the location of the fitted fire extinguisher.



Where text is shown with a shaded background it is used to draw to the user's attention special points of interest. These may include tips to assist in the effective and efficient operation of the module or to ensure correct care and maintenance practices are applied to extend the operational life of the module.


WARNING

It is the operator's responsibility to ensure the service module is within road legal limits and does not exceed the manufacturers GVM mass. It is important that the individual tanks are not overfilled for on-highway use. Check legal weight over weighbridge and take off TARE weight off GVM to work out the load the truck can legally carry for highway use. Your TARE weight will be stated on the registration form.

GVM - TARE = LOAD WEIGHT.

1000L = 1 metric TON




 The following safety precautions should be used as a general guide whilst operating the ORH Service Module. These are basic safety precautions remembering that each situation may have its own unique safety precautions to be adhered too. Ensure all hazards are first identified, and the appropriate control measures are adopted before use.

- Before operating the Service Module, the truck should be parked on stable even ground with the park brake applied.
- Do not smoke whilst operating or within close proximity to the service module.
- Do not wear loose or torn clothing while operating the service module.
- All equipment should be maintained in good working order at all times.
- Always operate in a well ventilated area.
- Keep the service module in a clean and tidy state at all times.
- Never point a control valve at any portion of your body or another person.
- Eye protection must always be worn when operating the service module.
- All ignition sources should be kept clear of the service module.

SECTION 4 - Vehicle Roll Over Protective Structure

This vehicle is fitted with a Roll Over Protective Structure (ROPS).

The ROPS is a certified structure designed to protect the occupants of the vehicle in the event of a vehicle roll over.

 DO NOT modify the ROPS in any way. This includes but is not limited to drilling, welding, cutting or grinding. Doing so may affect the integral structure of the ROPS and may result in harm or injury to personnel in the event of an accident.

 In the event of accidental damage, the ROPS must be structurally inspected by a certified engineer.

Each ROPS have their own identification tag. The ID tag is located on the drivers side of the ROPS.



SECTION 5 - Access Ladder

The module is fitted with an access ladder which is positioned to the rear of the vehicle as shown. The ladder is used to safely access the top of the module to fill the individual tanks using cam lock type fillers and to perform maintenance. The top of the module should only be accessed using the ladder.

A collapsible step is fitted to the rear tray.

 Ensure hands and body parts are kept clear of pinch points.

 DO NOT operate the vehicle with the collapsible step in the down position as this may result in damage to the step or module.

 Whilst accessing and the module via the Ladder:

- Maintain three points of contact and face the vehicle / ladder at all times.
- Ensure the ladder steps are clean and in good condition.
- Do not jump off the machine or ladder steps.



SECTION 6 - Safety Handrails

The Service module is fitted with safety hand rails to prevent accidental falls whilst accessing the top of the tanks.

 Ensure you remain within the boundaries of the hand rails at all times whilst accessing the top of the module diesel tank.

Your module may have been transported with the hand rails in the transport / shipping position. If so, the hand rails must be assembled and secured in the correct position prior to operating the service truck. A safety harness with secured lanyard must be used whilst assembling the hand rails into the operational position.

SECTION 7 - Work Inspection Lights

The module is fitted with Four (4) work / inspection lights. They are mounted one (1) at each of the four corners of the roof top. There is also one (1) rear reversing light (optional extra). The mountings can be positioned so to provide adequate work are lighting whilst the vehicle is stationary.

The lights are turned on and off with rocker switches located in the operator's cabin of the vehicle. These are located to the lower left and right of the vehicle instrument cluster.

 **DO NOT** operate (drive) the vehicle with the lights on, this will interfere with the vision of other drivers which may lead to an accident.

Adjust the work lights to ensure your workspace is well lit whilst the vehicle is stationary during fill and drain functions.



Left hand roof top work light



Work / inspection light switches located to the left and right of the instrument cluster



Work / inspection light switch located to the left of the instrument cluster. Top switch operates the reel cabinet lights.



Work / inspection light switches located to the right of the instrument cluster. Top switch operates the beacon light, lower switch operates the work lights.

SECTION 8 - Fire Extinguisher

The service module is fitted with two (2) dry chemical powder type fire extinguishers located at the right hand front of the module on the ROP and rear left hand side of the service module (behind the grease pod).



Fire extinguisher located at the rear left hand corner of the module

SECTION 9 - Warning Light Beacon

The Service truck is fitted with two (2) amber strobe warning light / beacon located middle of the ROPS as well as the rear right hand side of the module. The warning light / beacon is turned on and off with a switch located on the right hand side of the vehicle cabin instrument cluster.

 Do not operate the warning light /beacon when travelling on public roads.




Amber strobe warning light / beacon fitted to the top rear of the module and middle of ROPS



Beacon switch located to the right of the vehicle cabin instrument cluster

SECTION 10 - Battery Isolator Switch

The vehicle is fitted with a battery isolation switch to prevent accidental starting of the vehicle during maintenance and pre-start inspections. The switch is located on the control panel at the front right hand side of the module. Rotate the switch to the left (anti clockwise) to place the switch in the "OFF" position and isolate the vehicle battery supply. Rotate the switch to the right (clockwise) to place the switch in the "ON" position, supplying battery power to the vehicle.

 Do not conduct electric arc welding and/or repairs on the vehicle whilst the battery isolation switch is in the "ON" position. Damage to the vehicle will result.

In the "OFF" position the switch can be mechanically locked using an isolation hasp or padlock.



Battery Isolation Switch



Battery isolation switch located on the control panel at the front right hand side of the module

SECTION 11 - Operation

Open the reel locker located on the right hand side of the module. In this locker there is a range of pneumatic driven reels containing fuels, oils, lubricants, water and waste. Select the product to be used and turn on the corresponding ball valve located on the right hand side of the reel locker. Uncoil the hose reel to the desired length. It can be locked by means of the latch mechanism which is a clicking noise heard after each half revolution of the drum.

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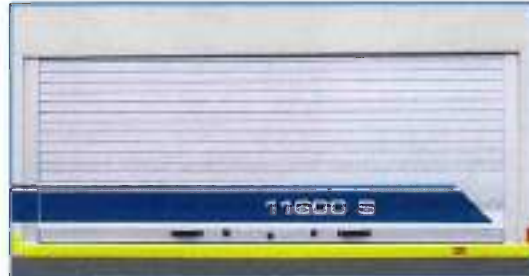
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By gently pulling the hose until the clicking noise has stopped, the latch is released and the hose is automatically recoiled.



Range of Ball valves




Daily draining of the moisture trap at the bottom of the ball valve manifold will aid in the overall service life of the pneumatic system


ORH Pty Ltd uses a range of quality reels and control valves in all models of the Diesel Module that marry up to provide the best combination for each application.

A remote display unit is fitted to the fast flow fuel reel for convenient monitoring of the product flow, set to 75 PSI and has a flow rate of 105 litres/min.

The light vehicle fuel reel has a diesel regulator to prevent foaming of the diesel. This is set to 20 PSI and has a flow rate of 40 litres/min.




 Hold the delivery hose securely until the reel is securely latched or fully retracted. Uncontrolled retraction can result in personal injury. Never let go of the hose while rewinding.

 For further instructions on the operation of the remote display unit, refer to the Operator's Manual supplied.

CONTROL VALVE OPERATION

Each individual Control Valve has its own unique set of operating instructions. Refer to the Operators Manuals supplied for these instructions.

 Never point a Control Valve at any portion of your body or another person. Lubricant discharged at high velocity can penetrate the skin and cause severe injury. Should any fluid appear to puncture the skin, seek medical care immediately.



Fast Flow Control Valve



Fuel Control Valve

SECTION 12 - Refilling

Built into the Service Module are eight (8) product storage compartments with the following capacities:

- 1 x 8000 litre tank
- 6 x 600 litre tanks
- 1 x 180 litre grease pod

There are sight glass tank level indicators at points on both sides of the Service Module. These are in the form of high, half and low level indicators.

The individual tanks can be filled from two (2) different locations on the Module:

- Convenient filling point through the manifold with Quick Lock fitting inside the reel locker on the left hand side.
- Roof top fill point through Cam Lock fitting. These filling points are fitted with breathers.
- The roof top filling point is accessed via the rear ladder of the module. The safety warning steps outlined should be adhered to while traversing these steps.



Sight Glass level indicator



Reel locker manifold fill point



Roof top fill point

The 180 litre grease pod installed at the rear of the module has its own separate quick lock fill point at the base of the pod.



SECTION 13 - Compressor

The compressor unit is started via a key operation, located on the front panel of the unit.

1. Open the ball valve to begin air flow to the variable air regulator with moisture trap. An auxiliary ball valve air supply is also included.
2. The variable air regulator is fitted with an adjustable valve for setting the air pressure required and a moisture trap for capture and removal of moisture through the moisture trap drain valve. The regulator is situated on the right hand side wall of the reel cabinet.



Ensure truck is parked up on stable even ground with park brake applied.



For further instructions on the operation of the compressor unit installed, refer to the Operator's Manual for that compressor.

SECTION 14 - Additional Features

An access hatch has been built into the roof of the reel locker. The hatch can be accessed via the steps onto the roof of the pod. This feature has been added to gain access to the various pumps and hoses installed in the rear of the reel locker, for such tasks as maintenance and cleaning.

To open the hatch:

Lift the two (2) T handles. Turn both T handles $\frac{1}{4}$ turn to left. Pull up to open.

Inside the hatch are three (3) steps leading into the pump chamber.



Top access hatch for hose reel locker



T Handle



Inside the Hatch

Three (3) storage lockers are built into the front left hand side of the module.



An Oil filter recovery box is located under the rear tray on the passenger side.



A Tool box complete with spill kit is located under the rear tray on the drivers side.




A 160L Water container is located below drivers side of the reel cabinet in front of the mudguard. A set of wheel chocks is located under the rear tray on the rear of the drivers side mudguard.



SECTION 15 - Reversing Camera


The Service Module is fitted with a reversing camera to assist with rear vision whilst reversing.

 The reversing camera is provided as an aid only to assist the operator and should not be relied upon in ensuring the path to be taken is free of obstacles or pedestrians.

The reversing camera is located at the top rear of the Service module below the amber strobe warning light / beacon. The reversing camera screen is mounted on the dash board of the vehicle cabin. Consult the reversing camera operation manual for correct operation.

 Ensure the camera lens is kept clean at all times. Dirt on the camera lens will result in poor picture quality.

 DO NOT apply high pressure or hot water to the camera as this may damage the camera.

 The Reversing Camera and Screen contain sensitive electronic components. DO NOT use electronic devices or devices with magnetic fields in close proximity.



Reversing Camera Located at the top rear of the module below the amber strobe warning light /beacon



Reversing Camera Screen located on top of the vehicle cabin dash

SECTION 16 - Maintenance Information

Check all fluid levels of the tanks and in the engine compartment of the truck before use, via the Sight Glasses or Dip Sticks, also check for leaks prior to use.

Drain air tanks daily to avoid moisture in air lines, air switches and brake system. Increased wear and tear will occur.

PARTS BACKUP:

ORH Engineering (Aust) Pty Ltd ensures all replacement parts are in stock and will deliver to any site within Australia. We understand that your business requires a prompt reliable service at all times, we pride ourselves on this service to minimize downtime for your business.

Thank you for your support in purchasing our product. Please do not hesitate to contact ORH Engineering (Aust) Pty Ltd for any further requirements.

Best Regards,

Jamie Detata
General Manager

SECTION 17 - Warranty Information

Warranty

ORH ENGINEERING (AUST) PTY LTD warrants their parts against defects in material or workmanship for a period of 12 months.

This warranty is limited to the repair or replacement of defective items. To receive warranty consideration all defective parts must be returned to ORH Engineering (Aust) for inspection. In the event that a warranty claim is rejected a purchase order will be required.

ORH Engineering (Aust) reserves the right to inspect all defective items prior to any warranty considerations being issued. This warranty will not cover failures due to neglect, improper use, improper maintenance, accidental damage or operator abuse. Hydraulic pumps, PTO's, compressors and special equipment manufactured by others, is covered by the warranty of these manufacturers.

Individual truck chassis's are covered by their manufacturers warranty. Please refer to your truck manual for details. ORH Engineering (Aust) will facilitate repairs through the relevant dealership if required.

ORH Engineering (Aust) will not be held liable for special, commercial, consequential or any damages, expenses or legal fees with respect to the sale of the said equipment, or its use, or operation.

Faulty Items

If items are faulty at the time of delivery please contact ORH Engineering (Aust) immediately.

Upon return of the faulty item our warehouse will inspect it and repair or replace as necessary.

Procedure to Claim

Please contact ORH Engineering (Aust) Pty Ltd by phone for urgent requests. Please email the **ORH Warranty Claim Form** to jinglis@orh.net.au with any photos and the following information must be contained in the ORH Warranty Claim Form:

- Truck make, model, VIN #, ID #, and location of the vehicle
- Problem
- Corrective action
- Date of failure