

Reference Guide



T3A2-rg

Type 3 MAN

T3 001-



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Type 3 MAN NZFS T3 001- Reference Guide

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Introduction

Purpose of this reference guide

This reference guide is designed to prepare you, as appropriate to your role, to drive, operate and crew the Type 3 appliance in a safe and efficient way.

This reference guide covers the basic information required to operate this appliance. This reference guide and the associated training do not replace specific driver, pump operator, and firefighter training.

Training requirements

Before the vehicle can be operational at your station, all crew members must:

- self-study using this reference guide
- familiarise themselves with the vehicle, as appropriate to their role
- complete the Type 3 MAN NZFS T3 001 Familiarisation Checklist.

Appliance identification

Each Type 3 MAN appliance has a New Zealand Fire Service identification number. This number is part of a sequential list (T3 001, T3 002, T3 003, etc.). It enables you to ensure this is the correct reference guide for your specific vehicle. The identification number is on the plate inside the driver's door, next to the Fraser Fire and Rescue ID.



NZFS Identification number

Section 1: Overview of the appliance

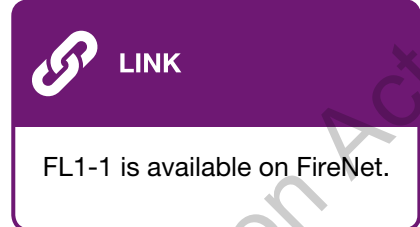
References

Policies

Policy and Operational Instructions that apply:

The driving of New Zealand Fire Service (NZFS) appliances is covered by policy FL1-1 Driving Operational Vehicles. FL1-1 should be reviewed by all drivers and officers as part of your training.

FL1-1 provides instructions for driving NZFS operational vehicles, and includes information on safety requirements.



Manufacturers' manuals

Type 3 Appliance manufacturer's manual

This manual contains the manufacturer's specific information regarding operator use and servicing details for the major components of the appliance. Each appliance is issued with a manual on entering service; Fraser Fire and Rescue produce this manual.

Fraser Fire and Rescue operational and maintenance manual

This manual contains general information:

- operating procedure
- general information
- routine checks.

MAN Owner's Manual

This manual contains information specific to the factory cab, chassis and driveline components of the appliance.

It tells you what you need to know about the vehicle to be able to drive it without risking damage to the vehicle or injury to yourself.

Darley LSP 1000 And HD 100 Operational and Maintenance Manual

This manual contains information specific to the pump:

- operating procedure
- preventative maintenance
- trouble shooting
- corrective maintenance.

Appliance views

Full details of the major components can be found in the respective sections of this reference manual.



Off-side view



Near-side view

Section 2: Appliance details

Cab and chassis

MAN TGM 290HP 4 x 2 BL Crew Cab fitted with Fraser BA seats.

- 4 x 2
- single steer front axle with conventional tyres
- air bag rear suspension height switch on the dash
- cruise control
- electronic speed limiter.
- electronic stability programme (ESP)
- ABS braking.

Body

The body is constructed from marine-grade aluminium and fitted with Fraser Fire and Rescue doors.

The maximum allowable weight for each locker is marked on the locker door catch.

Water tank

1450 litre capacity

Main pump

Darley LSP1000 Midship PTO driven

High pressure pump

Darley HD100 PTO driven

Monitor and base

TFT Crossfire with Safe-Tak 1250 Portable base

Weights

Operational weight: 13 000 kg

Travel height

3.2 metres

Length

8.5 metres

Width

2.5 metres

Tyres

Front	Size	- Continental 305/70R 19.5
	Pressure	- 770 kPa
Rear	Size	- Continental 305/70R 19.5
	Pressure	- 570 kPa

Transmission

ZF 5 HP automatic 5 speed transmission with an integrated retarder

Engine

MAN 6 cylinder inline, turbo charged, Intercooler, 290 HP at 2300 rpm

Section 3: Appliance cab

Cab layout

The following diagrams show only those controls/switches and warning lights pertinent to the operation of the appliance. Full details of factory Man cab layout can be found in the Man Operator's Manual.

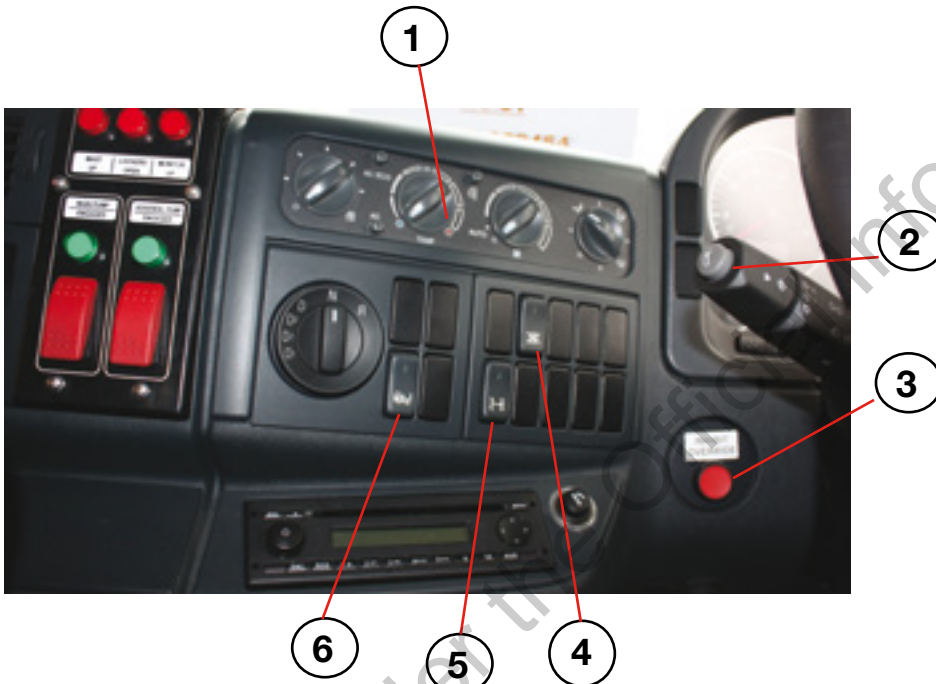


NOTE

Do not drill holes into the cab or modify in any way.

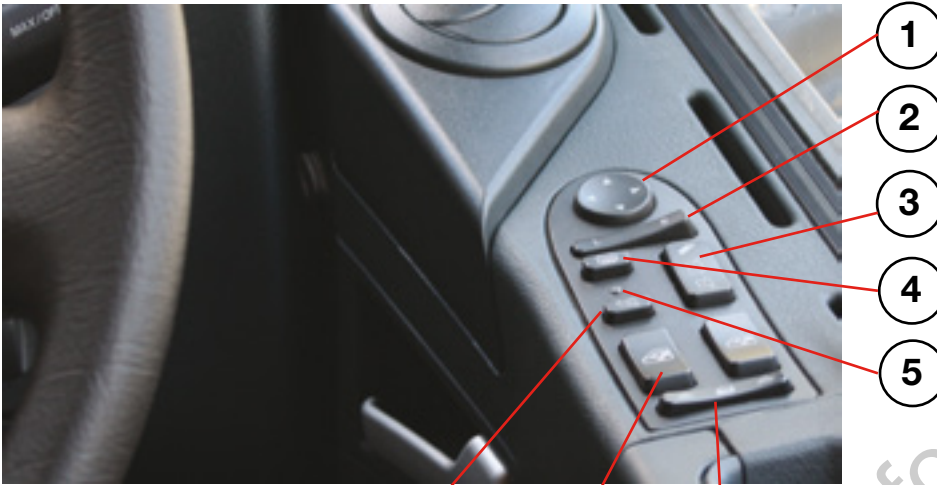
Dash layout and functions

Controls – left of steering column

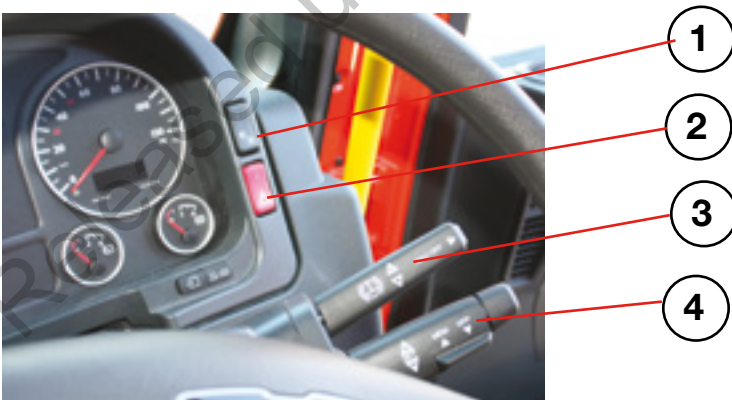


1. Climate controls
2. Wipers and window washers
3. Inhibit override
4. Anti spin regulator
5. Diff lock
6. Rear suspension lowering

Controls – right of steering column



1. Adjust mirror
2. Select the mirror on the left or right of the vehicle
3. Selects mirror to adjust
4. Switch mirror heater on and off
5. Check lamp comes on when mirror heater is activated
6. Central locking
7. Window raise/lower switch
8. Move the main mirror out briefly



1. Fog lamp
2. Hazard light
3. Retarder control stalk
4. Brakemmatic, cruise control and road speed limiter stalk



Grille release.
This catch unlocks the grille. A second catch at the bottom centre of the grille needs to be released when you lift the grille (same process as most car bonnets).

Siren and public address system (PA)

The siren is operated from the cab control console. To operate the siren, the beacons must be on.

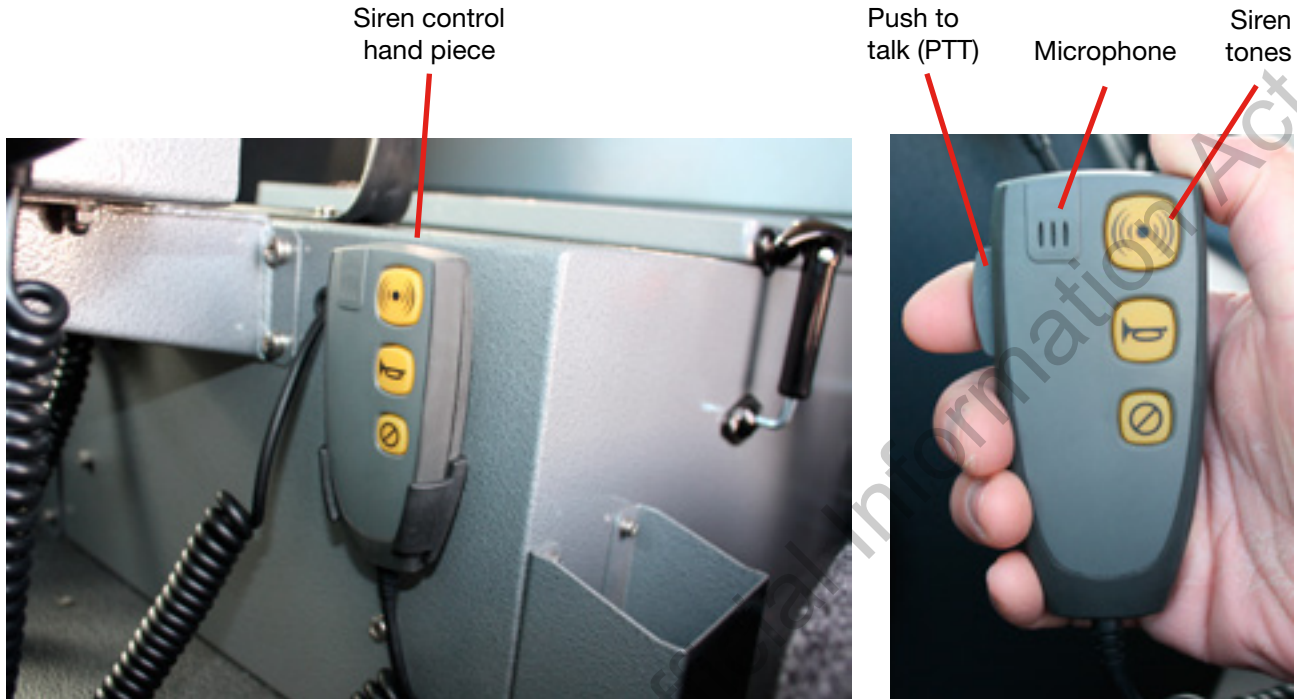


Emergency response
air horn

Beacons

Siren

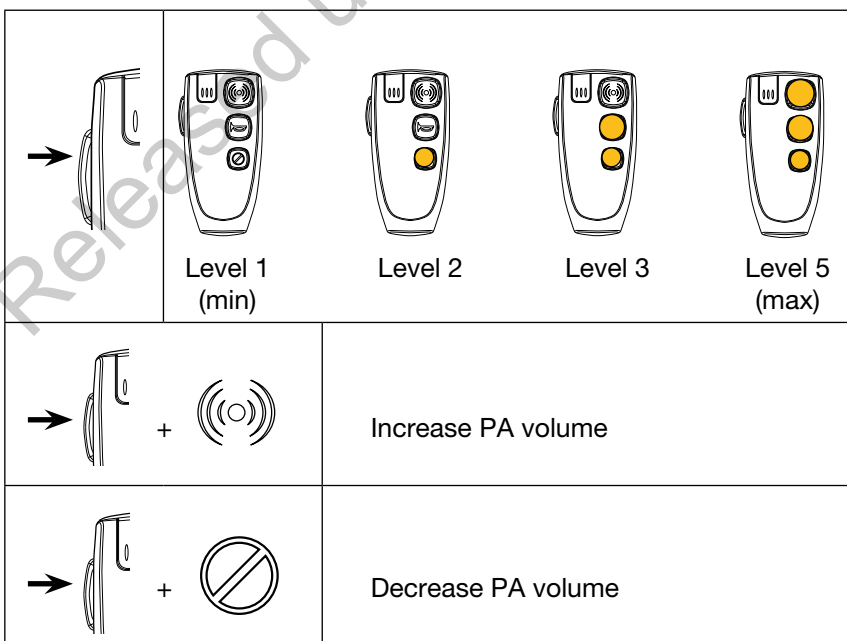
The siren tones are operated from the siren control hand piece which is located on the officer's side of the storage compartment.



To use the PA, the beacons must be switched on. Note: the siren does not need to be on. If the siren is in use, the PA can also be used. In this case, the PA will override the siren while you are talking. The siren will resume once you have finished talking.

Press the PTT button to activate the public address function.

The PA volume is displayed any time the PTT button is depressed, as shown below.



Battery and battery isolator



Batteries

Battery isolation switch

230 volt inlet and indicator light



230 volt inlet

Battery charger

The battery charger is mounted on the rear wall behind the number 4 seat.



Portable pump
battery charger
indicator light

If the indicator light below the 230 volt inlet is not illuminated, it indicates no power to the appliance charger. Check the circuit breaker beside the charger and in the engine house.

The charger is fully automatic. To switch it on, press the power switch and hold for three seconds. The power switch will illuminate green.

Once switched on, the charger automatically resumes operation when reconnected to the 230 volt supply.

On the left hand side of the steering wheel is a 230-volt inhibitor override. The vehicle cannot be started while the vehicle is connected to the 230-volt supply. In the unlikely event of relay failure or the vehicle needing to be started with the 230 volt connected, the red knob on the left hand side of the steering wheel labelled 'inhibit override' can be pushed, allowing the vehicle to be started. Under normal conditions this is not required.



NOTE

When the vehicle is plugged in correctly, the green light below the cab inlet plug will light up after 15 seconds.

Section 4: General safety

Employer responsibilities

Employers must ensure:

- the appliance is operated by competent operators and is used in accordance with the operating instructions
- appropriate documentation and records are maintained
- the appliance is inspected regularly, repaired and maintained by those competent to carry out such work and that periodic testing is carried out.

Driving safety - general

Overview

The following notes are general safety notes pertaining to this appliance they are not intended to fulfil the requirements of the Emergency Response Driver training for this appliance.

Pre-driving checks

Before starting road transportation:

- complete the standard Career appliance daily checklist (FL7 FML)
- check:
 - all equipment in lockers is stowed correctly
 - all lockers are closed
 - the monitor and light masts are housed.

Vehicle braking warning

Due to the weight of this vehicle, drivers must take care when braking and ensure the vehicle is driven to the road and weather conditions.

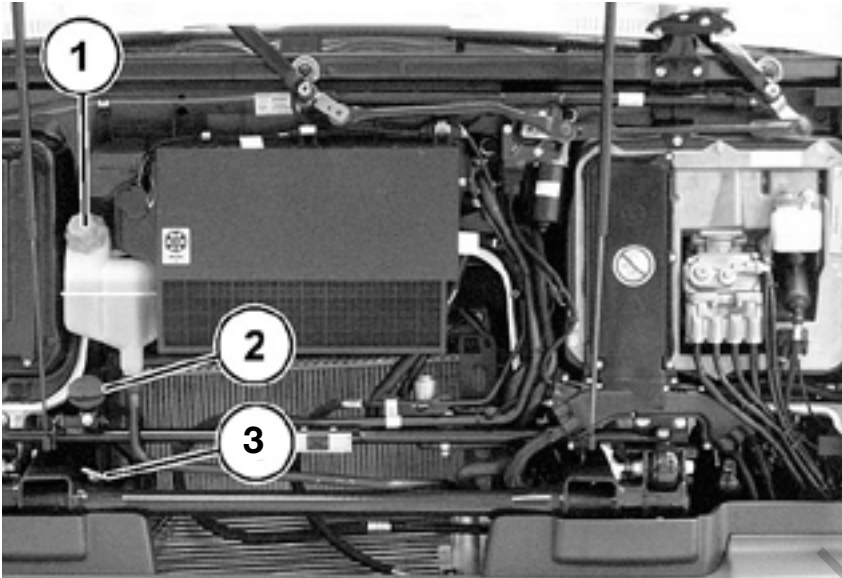


NOTE

The Career appliance daily checklist FL7 FML is available on FireNet.

Section 5: Driving

Oil and water levels



1. Filler neck for coolant
2. Filler neck for engine oil
3. Dipstick for engine oil

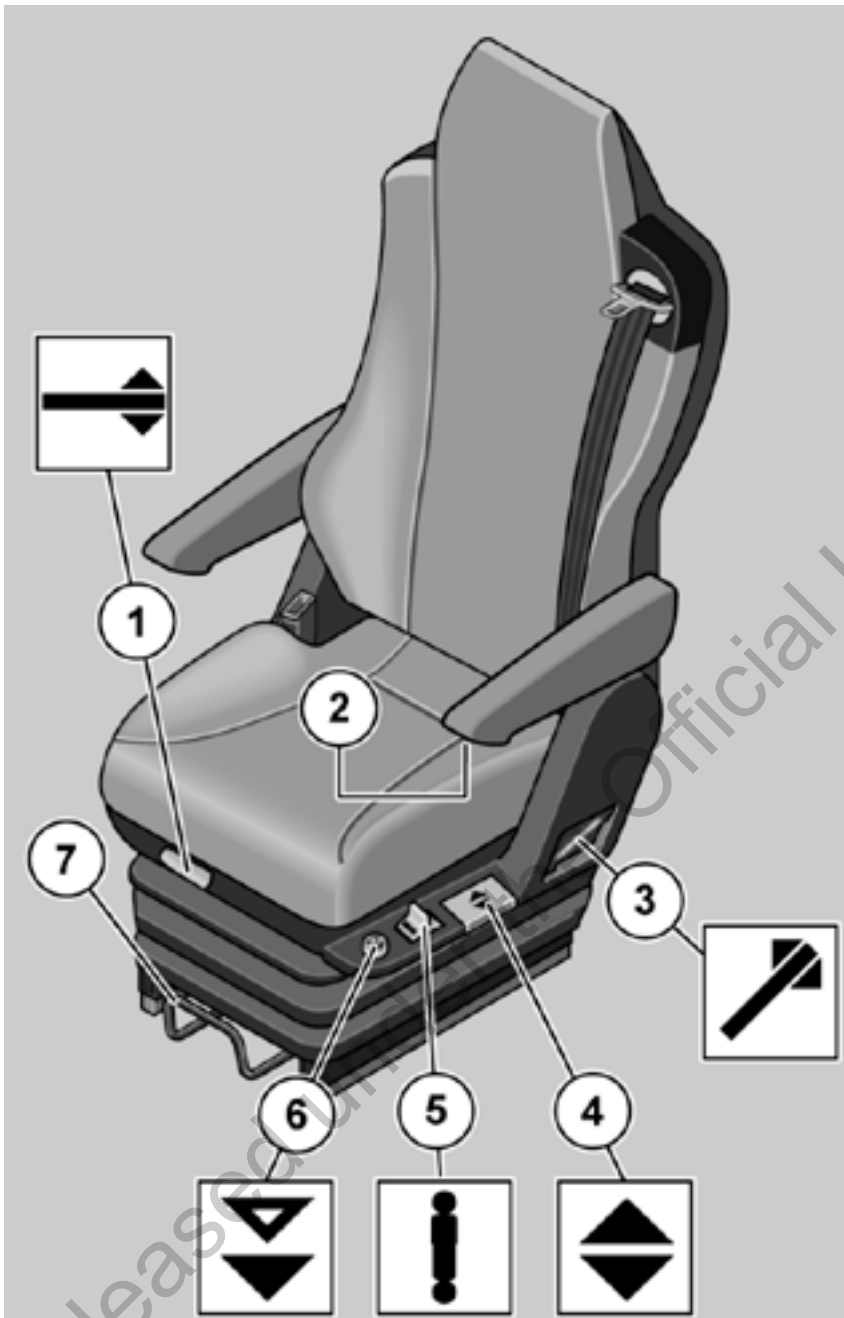
Adjusting the steering wheel

1. Press and hold the push button on the driver's seat console with your heel.
2. Set the rake and reach of the steering wheel.
3. Release pushbutton again. The steering wheel locks into place.



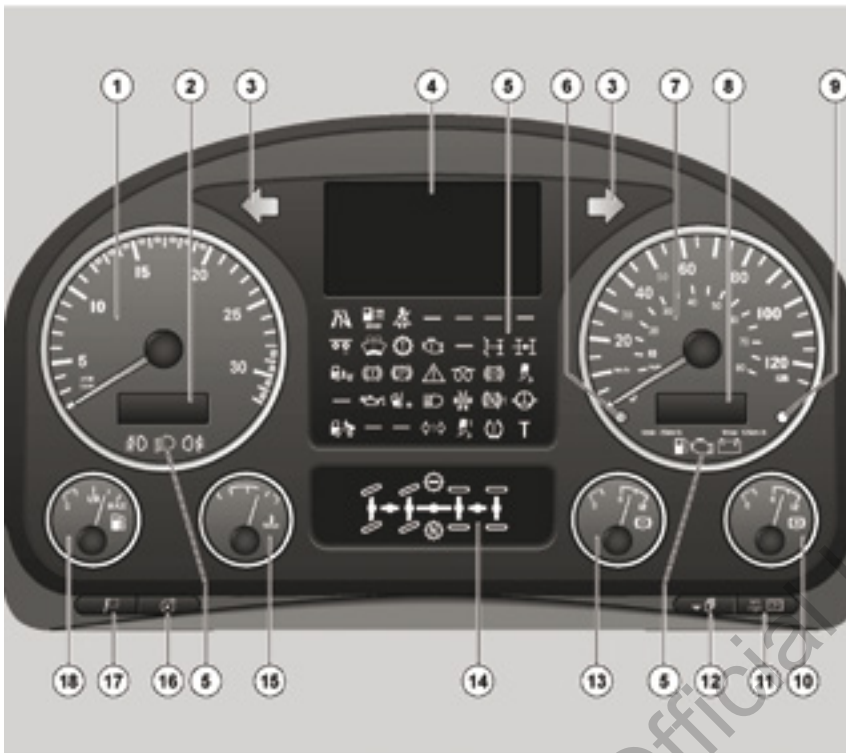
Steering wheel adjuster

Seat adjustments



1. Seat surface angle
2. Arm rests
3. Backrest angle
4. Seat surface height
5. Vertical damper adjustment
6. Quick lower - for getting in and out
7. Whole seat backwards and forwards

Instrument panel



1. Rev counter
2. Outside temperature
 - black ice warning
 - total mileage
3. Turn indicators, tractor
4. Display
5. Check lamps
6. Sensor for automatically adjusting brightness of the instrument lighting and the EU monitoring device display
7. Speedometer
8. Time
 - trip counter
 - speed
9. Warning speed
10. Reservoir pressure in brake circuit
11. Information messages on display
 - trip odometer or speed
 - vehicle menu



NOTE

For more information on the instrument panel, refer to pages 40-41 of the Man Operator's Manual.

12. Information messages on display vehicle menu
13. Reservoir pressure in brake circuit
14. Differential locks
15. Coolant temperature
16. Instrument lighting
17. Select language
18. Fuel level

**NOTE**

Do not accelerate and brake at the same time the exhaust brake is engaged. Doing so could cause damage by overpressurising the engine.

Running gear

Lowering rear suspension

Press to lower the rear of the body from drive height to a kneel position. This will lower the rear of the appliance by 150 mm to assist with the removal of the ladder from the gantry.

Press again to return the rear of the body to drive height.

If the rear of the appliance is in the kneel position when the appliance is driven at 5 km per hour the appliance automatically returns to the drive height.

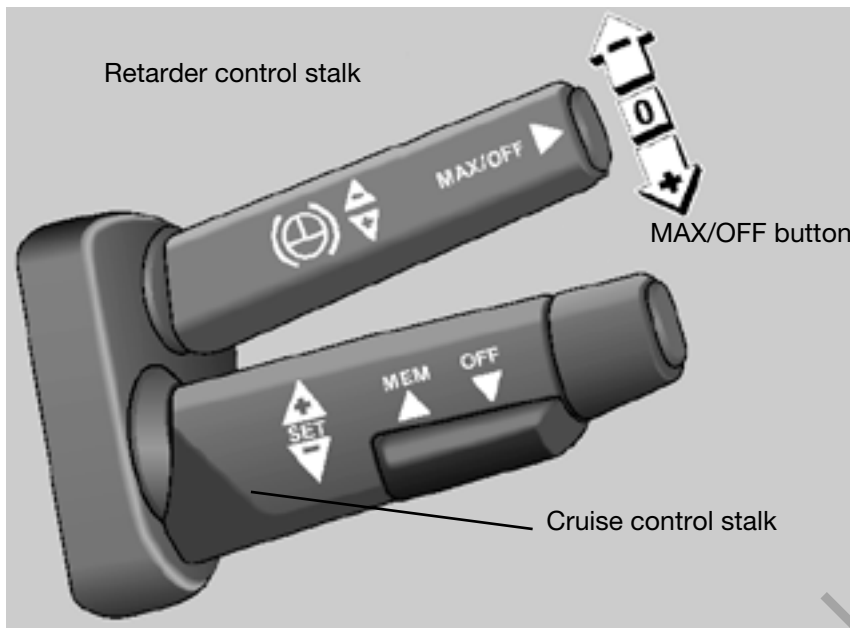


Retarder and Brakematic systems

The MAN appliance has two braking systems: foot brakes, and a transmission retarder.

These automatically combine when the Brakematic function is activated when travelling down hill.

The appliance computer will automatically decide which system, or a combination of both systems, to use to hold the appliance at the selected speed. The Brakematic system is not cruise control.



Retarder and Brakematic controls

Retarder

The retarder is a hydraulic brake driven by the transmission output shaft. It is used to supplement the foot-brake system and also to control downhill speed. There are three levels of braking, from low braking (level 1) to maximum braking (level 3).

The retarder is fully integrated with the brake pedal. The driver does not need to use the retarder stalk on the steering column to engage the retarder.

The first 25% of the brake pedal travel is mainly retarder, but the service brake will come on initially as the retarder takes a second or two to build up pressure. Once the retarder is up to pressure it takes over the braking. As the brake pedal is depressed towards 25% of its travel the service brake starts to work and increases smoothly as more foot brake is applied.

Under heavy braking both the service brakes and 100% retarder are working together. The retarder symbol will appear on the instrument panel but there will not be a number with it.

The stalk also operates the retarder, it has 3 positions. Position 1 selects 40% retarder, position 2 selects 70% retarder and position 3 selects 100% retarder. The button at the end of the stalk sets the retarder to 100%.

You might find the stalk to be a more suitable control for cruising down long descents.



NOTE

There is no need to turn the retarder off for wet surfaces. The ESP system has overall control over the braking system including the retarder and will take over in any situation it deems to be unsafe.

MAN Brakematic

The Brakematic system is primarily for downhill use. When the system is engaged, it will keep the vehicle travelling at the speed selected by the driver by automatically using the retarder and foot brakes.

To engage:

1. Set the required downhill speed by applying the foot brake for a minimum of three seconds.
2. Switch on the MAN Brakematic system using the rocker switch on the Cruise Control stalk (MEM/OFF).

The MAN Brakematic is now engaged and will maintain the vehicle at the current speed.

Depressing the brake pedal will temporarily override the system. Releasing the brake pedal will reengage the Brakematic system at the new speed.

To disengage:

Depress the accelerator.

Anti-lock Braking System (ABS)

The ABS compares the speed of each wheel and adapts braking power accordingly so that no wheels lock up.

The advantages of ABS are:

- shortest possible stopping distances without loss of steering and directional stability
- higher degree of control on slippery surfaces
- reduced tyre wear.

ASR (anti spin regulator) and ESP (electronic stability programme) switch

Only deactivate this system if off road. On other road surfaces, the ASR/ESP system must be activated.



NOTE

When adjusting the speed setting, the Brakematic will momentarily disengage then reengage at the new speed.



SAFETY NOTE

When the ASR/ESP is deactivated the vehicle is less safe, as there is no automatic intervention by the brake system.

Drive to the conditions at all times.

Electronic stability programme (ESP)

ESP is a safety system that assists the driver in critical situations, for example:

- skidding (over steer and under steer)
- risk of overturning

by

- improving the ability to control and steer the vehicle
- reducing the risk of overturning.

The ESP system includes sensors that measure the stability of the appliance.

The ESP system is connected to the braking and engine management systems and possesses two vehicle-stabilising sub-functions. One of these is mainly active when adhesion values are low to medium, and helps to counteract over steer and under steer. The other sub-function mainly takes effect when adhesion is moderate to high, and reduces the risk of overturning. The two sub-functions are linked via an interface and operate together. The ESP check lamp on the instrument panel screen flashes yellow when ESP is active.

ESP directional stabilising

ESP keeps the vehicle stable over surfaces with low or moderate adhesion, provided that the dynamic limits are not exceeded. It counteracts the tendency to over or under steer in certain situations. In these situations the ESP will apply the brakes to individual wheels to correct the behaviour of the vehicle. The ABS system will ensure wheel lock up is prevented.

ESP to reduce the risk of overturning

This function is intended to prevent the vehicle from overturning in certain situations (subject to being driven within the dynamic limits imposed by the laws of physics). This function is mainly needed at moderate to high levels of road grip.

ESP performs this function in two stages:

1. The first stage reduces the vehicle's road speed until lateral acceleration is below the critical level at which overturning could occur.

-
2. In the second stage, any wheel which leaves the road surface on the vehicle is detected. If a vehicle wheel lifts away from the road surface, the second ESP stage applies all the vehicle's brakes. The ABS system will ensure wheel lock up is prevented.

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Parking brake

To apply the park brake, push the lever backwards until it engages.



Park brake lever

Air tank drain

The air tank drain is on the offside, below the A locker.



Air tank drain

Starting the engine

To start:

- depress the brake pedal.
- put the vehicle in neutral
- turn the ignition key until the glow-plug symbol shows
- when “START ENGINE” is displayed, turn the ignition key fully.

If the engine doesn't start, check the battery master switch is on.

Gear selection

Automatic transmission



Modes

The following ZF 5 HP automatic transmission modes can be selected with the mode switch:

- 'D'. Drive forwards, unrestricted mode
Start off in 1st gear, automatic upshifts up to 5th gear.
- 'D1', 'D2', 'D3'. Drive forwards, restricted mode
 - 'D3'. Start off in 1st gear, automatic upshifts up to 3rd gear
 - 'D2'. Start off in 1st gear, automatic upshifts to 2nd gear.
 - 'D1'. Start off in 1st gear – no upshifts
 - 'R'. Drive reverse.

Changing modes

When changing modes from drive to reverse or back:

1. Ensure the vehicle is stationary.
2. Place your foot hard on the brake pedal.
3. Move the selector from drive to neutral, pause briefly, move to reverse.

The process is the same for going from reverse to drive.

Differential locks

The appliance is fitted with a differential lock. Only engage the differential lock when traction is lost and the vehicle is travelling in a straight line at a speed of less than 7 km/hr.

As soon as the appliance returns to hard standing, the diff lock must be disengaged. Damage can occur to the drive axles if the differential lock is left activated and driven on a normal road surface.



NOTE

Important:

Do not change from drive straight across to reverse. The transmission will not engage the selected mode.

To clear, place the selector in neutral and wait five seconds and re-select mode.

Section 6: Water pumps

Main pump unit

The Darley pump unit is mounted on the pump frame and is PTO driven.

There are two important output ratings, one for normal firefighting use with low pressure deliveries, and the other relevant to acting as a base pump for aerial appliances.

1. 3840 litres per minute @ 1050 kPa
2. 3600 litres per minute @1500 kPa - through delivery outlets to an aerial

SAFETY NOTE

When using the water pump, always use Class 2 hearing protection.

Hosereel pump

The Darley pump unit obtains its power from the vehicle's PTO. The hose reel pump is mounted on the nearside lower section of the pump frame. This unit is controlled from the main pump panel by the same electronic hand throttle that controls the main pump.



Hosereel rewind

The hose reel pump is fed by the main pump. Both must be running when using the hose reels.

When using the hose reels from the tank, it is recommended you prime the pump after opening the tank-to-pump valve to evacuate the air from inside the pump.

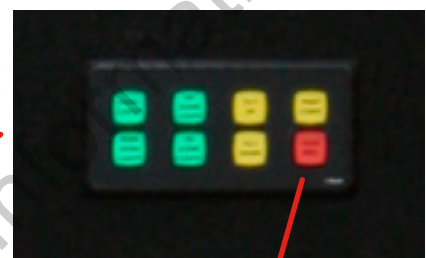
The hosereel system is designed to provide 440 litres per minute @ 2400 kPa. At this setting the main pump pressure will be 1050 kPa.

Water Dragon

To operate the water dragon set the hose reel pump pressure to 2400 kPa. This will provide 1500 l/m @ 1050 kPa from the main pump to deliveries.

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Offside pump panel



Hosereel rewind

Tank refill Tank refill inlet

The tank refill inlet bypasses the pump and feeds directly into the tank for manually filling the tank. The main purpose of this feature is to allow the tank to be refilled while draughting by connecting a delivery outlet to the direct tank fill with standard hose.

There is no tank refilling capability on the roof.

Overflows, relief valve and total pressure master system

The overflow from the water tank is piped to ground and is behind the rear axle. The cooling lines are piped to the water tank, so will dump water to ground through the water tank overflow when the water tank is full.

The suction relief valves (one each side of the vehicle) are preset to 1150 kPa. They are designed to protect the supply line into the pump. The suction relief valves are fitted between the collector head and the intake valve. In the event of high intake pressure, the relief valve opens and the excess water dumps to ground below the pump panel on each side.

The high pressure pump has a preset (kunkle) pressure relief valve, which has been set to 4200 kPa. When this valve opens; the water goes to ground under the nearside pump step.

The main pump is fitted with a Total Pressure Master (TPM) discharge relief valve. To maintain the desired discharge pressure, the TPM will relieve to the suction side of the water pump. If the desired discharge pressure is still not achieved, the TPM will dump to ground underneath the pump panel.

Total pressure master system (TPM)

To set the TPM:

1. Open the throttle until the desired pressure is achieved.
2. Turn the wheel slowly anti-clockwise until the relief valve opens (amber light comes on).
3. Turn the wheel slowly clockwise until the amber light goes off.

Amber light functions:

- steady – venting to pump inlet
- flashing – venting to atmosphere.

Shutting down the TPM:

1. Reduce engine RPM to idle.
2. Set TPM to normal operating pressure.

Pump controls and instrument panel

The pump panels are engraved and colour coded to assist in

component identification and relativity to each other.

The colour coding system is as follows:

- blue – main pressure
- green – pump suction
- pink – high pressure
- yellow – foam.

Pump engagement

There are two P.T.O.s. One drives the main pump, the other drives the hose reel pump.

The pumps must be engaged in the following sequence:

- Main pump first, followed by the hose reel pump.
- Reverse to disengage.

The hose reel pump will not work if the main pump is not engaged.

Engaging the transmission, or releasing the park brake will result in the pumps automatically disengaging. If this happens the pumps must be re-engaged using the pump switches.

Main pump

To engage the main pump:

1. Stop the vehicle.
2. Apply the park brake.
3. Shift the transmission into



neutral.

4. Ensure engine is at idle.
5. Hold the main pump switch until Light On shows.
6. Main pump is now ready.

Hosereel pump

To engage the hose reel pump:

1. Stop the vehicle.
2. Apply the parking brake.
3. Shift the transmission into neutral.
4. Engage the main pump.
5. Hold the hose reel pump switch until the light comes on.

Pump disengagement

Main pump

To disengage the main pump:

1. Ensure the engine is at idle.
2. Hold main pump switch until Light Off shows.
3. The main pump is now disengaged.

Hosereel pump

To disengage the hosereel pump:

1. Ensure the engine is at idle.
2. Hold hosereel pump switch until Light Off shows.
3. The hosereel pump is now disengaged.



NOTE

- The engine revs must be below 900 rpm before the PTO will engage.
- Keep the transmission in neutral at all times while pumping.



NOTE

Disengaging the parking brake will disengage the pump.

Hosereels

Two Fraser Fire and Rescue hose reels are mounted on top of the pump module. Each is fitted with 92 metres of Boston booster hose and TFT ULTIMATIC 125, 500 kPa model BL-BGH branches, and each hose reel is fitted with power and manual rewind systems. Circuit Breakers are fitted to the nearside pump panel. A water shutoff valve is positioned on the main pump panel.

A friction brake is fitted to each hose reel. In the event of a power failure, the hose can be rewound manually. To rewind the hose, insert the supplied handle through the front of the hose reel bollard onto the bevel gear shaft. Then push to engage the manual rewind gear with the beveled gear on the drum.

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Section 7: Foam system

Foam Pro system

The foam system is a Foam Pro 2002 direct injection with a 53 litre plastic tank and on-board foam refill pump.

Foam is available from both the nearside delivery outlets, both hose reels, and the deck monitor.

The waterway is configured to deliver water only, from both offside delivery outlets.

The Foam Pro system is an electrically driven, flow-based proportioning system that measures water flow and injects a proportional amount of foam concentrate into the discharge side of the pumps.

The foam system is designed for Class A foam only.

The foam proportioning and multi-flow gauges are mounted to the right of the Foam Injector Selection switch.

Foam tank

The foam tank is plastic and has a capacity of 53 litres.

The tank is located at the bottom of the offside pump panel. For manual filling of the tank, slide it out of the locker and remove the tank lid.

Refilling

There is a self-priming, flexible impeller pump with a flow rate of approximately 20 l/min, mounted behind the nearside pump panel. This is used to transfer foam concentrate to the foam tank.

Foam is taken up through a pick-up tube connected at the nearside pump panel when required.

A sensor is fitted to the top of the tank to stop the foam concentrate pump when the level has reached a maximum.

System priming

Upon receiving your new Type 3 appliance, the foam concentrate system will need to be charged. To do this:

1. Fill the foam tank with Class A foam.
2. Turn the foam system on by pressing the red FOAM button and set it to normal pressure.
3. Set the foam percentage to 10% by pressing the SELECT button until the indicator is beneath “ % ”, then use the UP arrow to increase the rate to 10%.

4. Open a foam capable low-pressure delivery outlet and run the main pump up to approx 150 L/min until foam is present.
5. Switch the foam system to high pressure and run a hosereel at something close to its normal maximum output until foam is present.
6. Close down and flush the water pump waterway as usual.
7. Set the foam pump proportioner back to the normal operating percentage. (Note: the lower the main water pump pressure the faster the prime. Therefore do not fit a nozzle to the delivery outlet being used).

Contents level

The foam concentrate contents gauge is mounted on the left side of the pump panel next to the Foam Injector Selection switch.

When the foam level drops to 1/8, the LED lights on the contents gauge will begin to flash to alert the pump operator.

Foam Pro operation

High or normal pressure

The Foam Pro system will inject foam into either the hosereel pump, or the main pump, but not both at once.

Making the selection between high or low pressure tells the foam proportioning system which flow meter to monitor and which injector to send foam concentrate to.

Flow measuring

The Multi-flow system performs two functions:

1. It measures water flow. This is necessary for the proportioning system to deliver the selected percentage of foam concentrate into the water stream
2. Displays flow rates.



LINK

For detailed instruction on the operation of the Foam Pro system, refer to the Foam Pro and Darley Pump Operation manuals.

The pump operator can select from the following display options on the Multiflow panel:


- the combined water flow through the hose reels
- the flow through the foam capable low pressure delivery.

The flow through the low pressure deliveries is measured for the foam-capable low pressure delivery only.

Foam proportioning

The foam proportioning controls include the following:

- a button to start and stop the injection of foam concentrate (change from delivering plain water to delivering foam solution)
- selection of what is displayed
- adjustment of the percentage of foam concentrate injected into the water stream.

 **NOTE**

Always ensure the monitor is down before driving the appliance.

Display options

The foam proportioner display can show:

- the flow rate through the selected (high or low pressure) outlets
- the total volume of water pumped
- the percentage of foam concentrate being injected
- the total volume of foam concentrate that has been used.


Remember to reset the total water and total foam displays to zero before pumping. The displays are reset by pressing the \triangle and ∇ buttons on the foam proportioner at the same time when the appropriate reading is displayed.

Getting to work with foam

Delivering foam

To deliver foam solution:

1. Start delivering water as usual.
2. Set the injection selector to either high or low (normal) pressure discharge as required.
3. Check and adjust the foam percentage as required.

 **NOTE**

The maximum working pressure the foam system can inject foam is at 2700 kPa.

4. Start the injection of foam concentrate by pressing the on/off button on the foam proportioner control panel.
5. Monitor the contents level of the foam tank.

High / Low flow warning

If the foam concentrate pump cannot supply the correct proportion of foam it will display a warning on the foam control display.

“Lo.Flo” means there is so little water flowing that the foam system cannot accurately supply such a small quantity of foam concentrate.

“Hi.Flo” means that there is so much water flowing that the foam pump cannot supply enough foam concentrate to maintain the selected concentration.

Refilling the foam concentrate tank

The foam tank is filled via an on-board foam refill pump as follows:

1. Connect the foam pickup tube (supplied) to the Dry Break fitting on the pump panel.
2. Place the other end into the foam container.
3. Press the foam pick-up pump button in until the foam starts to flow. Hold button in to continue pump operation until foam tank is full. (Foam tank capacity = 53 litres, foam is normally carried in 20 litre drums).
4. Remove the foam pickup tube.
5. Flush the pick-up and flush away any foam spilt during refilling.



NOTE

The refill pump will automatically switch off when either the foam tank is full, or the foam transfer pump is dry for more than 30 seconds.

Section 8: Equipment

Crossfire monitors and Safe-Tak 125 portable base

The monitor unit mounted in the pump frame, is a TFT 18" Extend-a-gun with a crossfire monitor, and is fitted with a Master Stream 150-1250 nozzle. Operation of the monitor is from the body roof platform position. The waterway open/close switch is mounted on the monitor support tube. It will not operate until the monitor is fully extended.

There is a warning light in the cab, which comes on when the monitor is extended.

The monitor can be ground mounted, by using the Safe-Tak 1250 portable base. To ground mount:

1. Position the monitor over the base.
2. Slide it onto the portable base until the pawls engage.

Ladders

The appliance is fitted with three ladders:

- a 10.5 m rescue ladder (a 464 Rescue Ladder can be fitted)
- two access ladders.

Rescue ladder is mounted on a fixed beam gantry on the top deck of the appliance. Two access ladders are stowed in the rear locker.

To remove the rescue ladder, lift the manual release arm only when the crew is positioned at the foot of the ladder. The ladder will slide back due to gravity.

When housing the rescue ladder, ensure the head of the ladder is kept up off the gantry, and the weight of the ladder is taken by the rollers at the base of the gantry. Once the ladder gets beyond the tipping point and the head naturally settles on the centre guide on the gantry, finish housing the ladder.

Once housed, position the locking fork on the 2nd last ladder rounds. Secure the manual release arm.

The suspension may be lowered to assist removing and housing the ladder.



Ladder locking pin and manual release arm



NOTE

The ladder must be held before releasing, as it will slide back or forward due to gravity.

Section 9: Lighting

Switches

The following lights are switched on at the pump panel:

- scene lights
- pump panel light
- mast light.

Note the work light master switch, located on the control head in the cab, must be switched on.

Body roof lights are switched on and off from the work light master switch.

Locker lights

All locker lights will come on when a locker door is opened, provided the vehicle park lights are on.

Letterbox lighting

Letter box lights are located on the roof beside the front beacons. They are switched on from the control head in the cab.

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Notes

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