

PNEUMATIC SHIFT CONTROL PLATE



WATEROUS



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TRANSMISSION SHIFTING INSTRUCTIONS

SERIES

C20

C10

M

W

Y

WARNING

READ and UNDERSTAND instruction manuals before using your equipment. Failure to do so may result in serious personal injury or death.

Read entire instruction manuals carefully. It is important that you know the proper operating procedures and safety precautions prior to operating your Waterous equipment to prevent injuries to yourself or someone else.

These instructions apply to Waterous fire pumps built after 1977, equipped with automatic chassis transmissions, and equipped with both in-cab and pump operator's panel shift indicating lights.

Indicating light arrangements changed in 1991. Older systems consisted of a red and green light in the cab. Newer systems consist of two green lights in the cab. These instructions apply to either system.

These instructions pertain to shifting electrically or pneumatically. For manual shift operations, please refer to the instruction manual.

Two series of Allison automatic transmissions are commonly used in fire trucks. Each series is available with the shift patterns controlled hydraulically or both electronically and hydraulically. This later type is commonly referred to as the ATEC transmission.

In each automatic transmission, either the non-ATEC or the ATEC, certain sequences must occur in proper order after the pump shift control is moved to either PUMP or ROAD position.

Split shaft pump transmissions, automatic transmissions and engines will vary in operation due to manufacturing tolerances, lubrication temperature, etc. This variance in each may or may not affect the ease of completing a full shift into either PUMP or ROAD. Operator training and experience in shifting procedures is a requirement to becoming skilled in a smooth, complete shift into either PUMP or ROAD.

When the pump shift is activated, the operator may hear a noise associated with the movement of the shift unit. This does NOT mean that the shift has been completed.

After the shift to pump operation is completed, the OK TO PUMP light in the cab must be on before leaving the cab to operate the pump from the operator's panel.
DO NOT LEAVE THE CAB IF THE OK TO PUMP LIGHT IS NOT ON.

WARNING

Unexpected Truck Movement.
May result in serious personal injury or death.
Failure to properly shift transmission in accordance to the transmission operating instructions may result in unexpected truck movement which may result in serious personal injury or death.

Shift to PUMP as follows:

1. Bring truck to complete stop.
2. Reduce engine to idle speed, put truck transmission into **NEUTRAL**.
3. Set truck parking brake.
4. Move pump shift control to **PUMP** position.
5. Shift truck transmission into pumping gear (**DRIVE**).

CAUTION

Shifting truck transmission into pumping gear (DRIVE) above engine idle speed may cause damage to the equipment.

6. OK TO PUMP light should be on.

CAUTION

If OK TO PUMP light is not on, momentarily shift truck transmission from pumping gear (DRIVE) to NEUTRAL, then REVERSE, then NEUTRAL, then back into pumping gear (DRIVE). Light should be on. If light is not on, repeat procedure.

7. Increase engine speed above idle and hold for a few seconds. Watch speedometer to make sure it shows some value of road speed.

NOTE: Some fire trucks have a speedometer that will not show a value of road speed in a stationary position.

WARNING

If the truck attempts to move, reduce engine speed to idle. Put truck transmission in NEUTRAL and repeat shifting instructions.

8. After leaving truck cab, block wheels using wheel chocks.
9. To confirm that the pump is engaged:
 - THROTTLE READY light on operator's panel is illuminated.
 - Pump discharge pressure registers on gages.
 - Other safety interlocks are activated.

Shift to ROAD as follows:

1. With engine speed at idle, put truck transmission in **NEUTRAL**.
2. When speedometer slows to zero, move pump shift control to **ROAD** position.
3. Engage truck transmission (**DRIVE**).

CAUTION

If you hear a loud grinding noise when you attempt to move the truck, the shift to ROAD has not been completed. Shift into NEUTRAL, wait for grinding noise to stop and re-engage truck transmission.

If grinding is a common occurrence after Step 3 is performed, it may be prevented by shifting the truck transmission into NEUTRAL, then to REVERSE, back to NEUTRAL and finally to DRIVE.

4. After shifting the truck transmission to **DRIVE**, release the parking brake and move the vehicle forward to confirm a shift to **ROAD** has been completed.

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