HYDRAULIC SYSTEM-GENERAL

SYSTEM FAILURE

Pump

Should a mechanical failure occur in the pump e.g. seizure, all power assistance will cease immediately. It will still be possible to steer the vehicle but a considerable increase in physical effort will be required.

The above effect will also be obtained in the event of a 'Stalled' engine or failure of a drive belt.

In the event of a seized pump, the drive belt must be removed to avoid damage to the drive pulleys and potential fire hazard from an overheated belt.

Hoses

If the hose between the reservoir and pump or the steering box and reservoir fails, the system will function normally until the reservoir is exhausted. When this stage is reached the pump starts to draw air as well as fluid and this usually results in intermittent power assistance for a short time before it is lost altogether.

Failure of the hose/pipe assembly between the pump and steering box will result in an immediate total loss of power assistance, followed by the rapid exhausting of the reservoir fluid and a 'Dry' pump condition.

Steering Box

The hydraulic system of the steering box is 'Fail Safe' and a failure will not interfere with the steering of the vehicle, except that a greater degree of physical effort will be required for any given manoeuvre.

Following the occurrence of any of the above failures, immediate removal of the pump drive belt will prevent further damage.

Note: Removal of the drive belts on the RB75 model will not permit the vehicle to be driven since the compressor for the air braking system will be rendered inoperative.

FLUID AERATION

Use only the recommended grade of fluid. The wrong grade could easily become severely aerated (foaming) and cause difficulty in bleeding the system.

Should the fluid level in the reservoir be allowed to fall, hoses or pipes are disconnected, a component is removed or a fluid loss occurs, air will enter the system. This will necessitate the bleeding of the system.

BLEEDING THE SYSTEM

Ensure that the parking brake is applied.

Raise the front of the vehicle until both front wheels are clear of the ground.

Support the vehicle using suitable equipment to ensure the safety of workshop personnel.

Top up the reservoir as necessary using the recommended grade of fluid.

Note: UNDER NO CIRCUMSTANCES MUST THE PUMP BE ALLOWED TO RUN IN A DRY CONDITION AS PERMANENT DAMAGE WILL OCCUR.
If a new or reconditioned pump has been fitted and is therefore to all intents and purposes in a 'Dry' condition, the following precautions must be taken before starting the engine

a) Immobilise the engine so that it may be cranked by the starter motor, but is unable to start and run.

b) Fill the reservoir with recommended grade of fluid.

c) Slacken the pipe union on the output (pressure) side of the pump.

d) Crank the engine until fluid issues from the slackened pipe union.

e) Tighten the union and top-up the reservoir.

f) Mobilise the engine.

Start the engine and set to run at a fast idling speed.

Turn the steering wheel steadily and progressively from lock to lock.

Check level of fluid in reservoir, topping-up as necessary.

Repeat the last two operations as often as necessary to ensure that the system is fully bled. The completion of the bleeding operation is indicated by fluid returning to the reservoir being completely clear of air bubbles.

Finally top-up the reservoir to the correct level as indicated on dip-stick.

Remove the supports and lower the vehicle.

MANOEUVRING

When manoeuvring slowly in confined spaces do not turn the steering wheel with the vehicle stationary. Not only does this place unnecessary loads on the steering gear, it is liable to result in 'Flats' on the front tyres eventually creating an 'Out of balance' situation. This in turn leads to further excessive tyre wear and additional stress on wheel bearings and steering gear and harsh running.

Under no circumstances must turning pressure be maintained on the steering wheel if one or both front road wheels are against an obstruction such as a kerb or deeply rutted track as this will result in overheating of the pump and fluid.

Full power assistance is available at engine idling speed. Increasing the engine speed does not result in increased assistance.