

AUTO HEAD CONTROL

BULLETIN HY-10
(REVISED OCTOBER 1992)

FAULT FINDING

It is necessary to isolate the individual parts of the system to determine which component fails to hold pressure. It will help to understand how the system works:-

The two small compensator rams are interconnected with the head angling ram and are extended or retracted only by movement of the main arm or dipper. They are in effect displacement cylinders and thus if the lift ram is raised the opposing compensator ram will be compress, pushing oil out and into the base of the head angling ram. This will maintain the pre-set angle of the flail head. Relief valves protect the system as when lifting with the head angle ram already fully extended.

HEAD ANGLE CREEP

The motor end will tend to droop if there is internal leakage in the angling system. An outboard mounted motor will extend the angling ram and an inboard motor will retract it.

TEST PROCEDURE

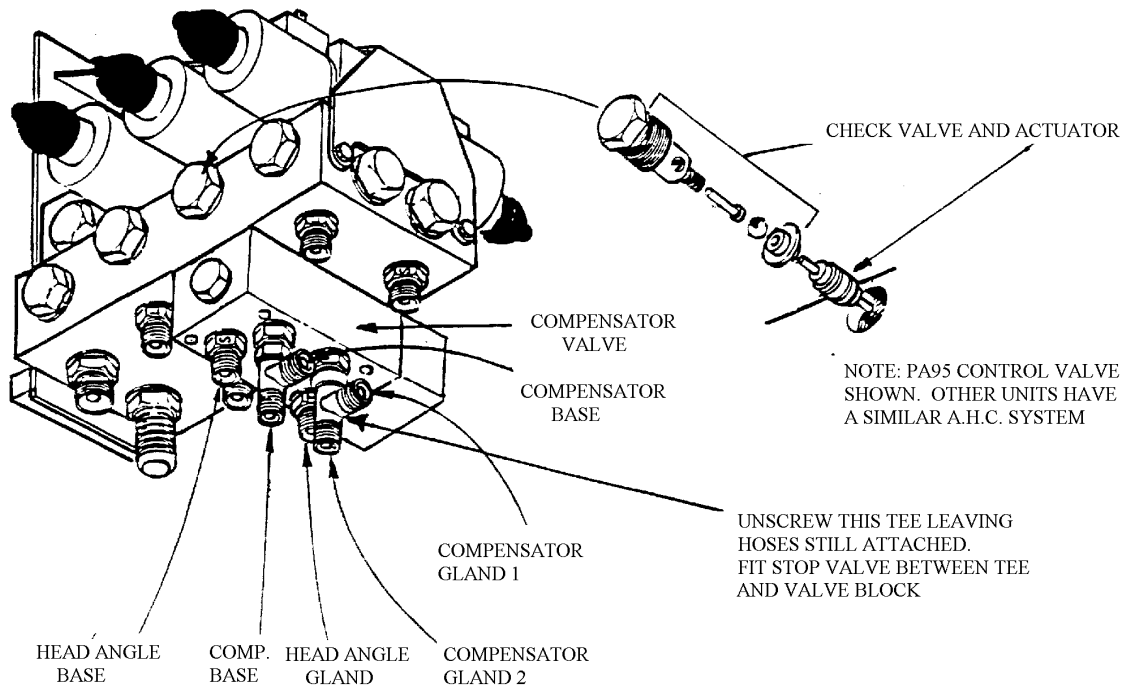
Raise the boom to position the flail head clear of the ground.

1. Motor Mounted outboard. Insert a stop valve between the control unit and tee connection which feeds the gland ends of both compensator rams. Operate the machine with the stop valve open to observe the creep. Close the valve and DO NOT operate lift or reach services with the valve closed. If this arrests the creep, one of the compensator rams is at fault. It will be necessary to isolate them individually by placing the stop valve at one of the two tee branch connections.
2. Motor Inboard. As for test 1. but at the base end supply to the compensator rams.
3. If creep persists with both compensator rams isolated then test the head angling ram by connecting the stop valve to close the outlet flow from the ram. If the rod still extends, oil is leaking internally past the piston.
4. If all three rams are sound, internal leakage is taking place at the control unit. This is likely to be via the check valve in the main manifold block or the line relief valves in the compensator block.

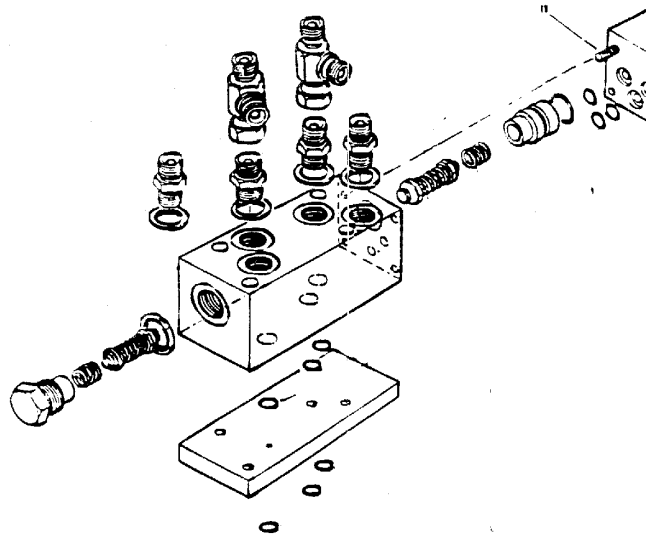
Check valves can be interchanged for test purposes. They can be dismantled to examine for possible poor seating of the ball. The actuator situated between two check valves must be free in its central position. It should be slightly shorter than the distance between the opposing check valve balls. It is permissible to shorten the actuator by approximately 1mm if lack of clearance is suspected. If the head angling ram is extended due to creep, check the relief valve adjacent to the ram "gland" end connections. NOTE:- one end of the compensator block can be fitted with a solenoid valve to give the optional head "float". Without the float option, a blanking plate is fitted

Air in the System. Air will enter the hydraulic lines when they are disconnected. On final test the lift and reach movements should be operated to full ram travel and the head angled fully both ways at the end of each lift and reach stroke.





DETAIL, COMPENSATOR VALVE UNIT RESTRICTOR PLATE ON SOME MODELS INSTEAD OF RESTRICTOR UNIONS.



TEST KIT 1/4in. BSP

