



Test Procedure KIS & LH Cable -Safe. Settings suit 265 motor

02900414A

Test at normal oil temperature

- 1:** With cable bye-pass cock(s) shut and park brake applied, pressure at cable reel is 800-psi as set by HYDEN155E (white). Pressure at brakes is also 800-psi provided Jack-Safe levers are in proper positions and HYDEN125B is set to 700-psi.
- 2:** With steering held at full lock, TP2 is 1400 psi as set by HYDEN110B (blue).
- 3:** Open cable reel bye-pass cock. TP2 falls to 700-psi set by HYDEN110A (gold) and then is set by HYDEN110E (white) to 800-psi. If below 700-psi, raise boom with and without steer held to full lock - a speed change to boom raise indicates a faulty check valve in HYDEN110 while no change indicates a need to replace HYDEN110A (gold). If pressure fails to rise to 800-psi, change HYDEN110E (white). Close bye-pass cocks after test.
- 4:** With boom held fully raised, TP2 is 2000-psi (1200-psi above 'low' cable reel pressure) as set by HYDEN110G (green).
- 5:** With boom held fully raised and park brake HYDEN111B applied, pressure at brakes is 1000-psi set by HYDEN110F (grey).
- 6:** Cut power and time mode sense to return to neutral. This is less than 5-secs. if orifice in HYDEN110 is clear, check valve 12 seals and mode sense is free.
- 7:** With boom raised, operate mode sense. If boom drops, the load hold is faulty or there is restriction in the 'brake' tank line. If boom drops with power-off, the load hold is faulty.
- 10:** The speed steering is turned at full lock shows the combined leakage from the steer valve and steer cylinders.
- 11:** Estimate time for boom to raise with bye-pass cock open and shut. A change more than 15% indicates a worn pump, a fault in the small check valve to TP2, or a worn cable motor. A case drain test at the motor is used to determine motor condition.
- 12:** (High temperature): Pressure at TP1, with steer valve centred, is less than 450-psi. High pressure may be restriction in lines, faulty steer valve, large pump or faulty HYDEN110A.
- 13:** TP2 will rise from 800-psi to 1100-psi, as set by the tow relief valve, when tow cock in the return line is closed. Open small cock at P3 by one turn.
- 14:** Red relief valve HYDEN110C is set to 1300-psi and may be checked at the gauge in the cabin while driving towards the anchor. Alternatively, adjust HYDEN155E (white) to maximum, adjust HYDEN110C to 1300-psi and then adjust HYDEN155E to 800-psi.
- 15.** Jack-Safe: While extending floor jacks, operate mode sense valve. This will not detent until jacks are fully retracted.



Diagnosics

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1. BRAKES:

Mode sense HYDEN111B returns to neutral, after power is switched off > 5 seconds:

- * Orifice HYDEN110J is blocked
- * Mode sense valve HYDEN111B is faulty
- * Accumulator check valve is leaking
- * Restriction in tank line from HYDEN111

Vehicle will not tram:

* Pressure switch is set above 650 psi or is faulty

* Pressure is below 700 psi. This is set by reducer HYDEN111F or HYDEN125A provided Jack-Safe valves are in retract/lock, diverter is in neutral and cable by-pass cocks are shut.

2. BOOM:

Drops with power off - * Faulty load hold.

Drops when mode sense HYDEN111B is operated - * Restriction in HYDEN111 tank line

Lowers too slowly when operated - * Mechanical problem

* Faulty load hold, * Restricted main tank line (check 'Tow' cock', Return line filter, restricted main line or pilot line from Pil2)

Fails to raise or raises too slowly:- * Faulty pump, * Faulty valve HYDEN110G, * faulty HYDEN110H, * Faulty check valve HYDEN110K..

3. STEERING:

Faulty relief valve * HYDEN110B, *Steer valve, *Steer cylinders. *Mechanical, *Pump

4. OVERHEATING:

* Blocked filters, * Cable pressure > 900psi, * Cable by-pass cocks partially open, * Faulty HYDEN110A, * Steer valve not centering, *Pumps too large or hoses crossed, *Low oil, * Tow cock partially closed.

5. TOWING:

Transfer of oil during towing - * Cock at P3 more than 1 turn open, * return line too small, * return cock open, * tank line relief valve set < 300psi, * faulty check valve in HYDEN110.



KIS PROCEDURES

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TOWING

- * Connect pressure from Eimco to the 1/2" coupling. Check the small needle valve at P3, on HYDEN110, is set at 1 turn open - Larger settings may lead to oil transfer from the Eimco.
- * Connect 3/4" return line coupling to Eimco using 3/4" hose. Small hoses may cause 300 psi relief valve to operate and oil to transfer from the Eimco.
- * Shut ball valve near return line filter on shuttle car. This valve prevents oil transfer of from Eimco and there is a relief valve, set to 300 psi, across this valve.
- * Note: Prolonged towing may cause overheating of the Eimco system and a relief vane set to 900 psi may have to be added across the two lines at the Eimco.

FLOOR JACKS

- * The normal position is two Jack valves in detented retract position and the diverter in the centre position.
- * To lift the car, hold the two Jack valves in 'extend' and the diverter in 'jack'. To lower, place Jack valves in 'retract' and diverter in 'Jack'.
- * Enable 'jogging' of the tram motor, for maintenance of the drive line, by holding the diverter in 'jog'.
- * To test the system, simply place the 'jack' valves in normal retract - It should not be possible to engage to mode sense until jacks are fully retracted.