TROUBLE SHOOTING AIDS

"A" & "J" HYDRAULIC HOLOMATICS

(INCLUDING DEEP HOLE MODELS)

Trouble	Probable Cause	Check	Remedy
Unit does not cycle.	No or low hyd. supply pressure.	Hydraulic supply not turned on.	Correct—regulate for proper pressure—300 to 500 p.s.i.
		Electrical & hydraulic connections.	Correct.
	Directional valve at hyd. pump does not actuate.	Check "O" rings in valve for swelling or sticking.	Replace and lubricate.
	Hyd. supply leaks.	Check for leaks around fittings.	Tighten or replace.
	No electric power to control circuit.	Make sure electric system is on—check fuses. (Solenoid valve action is audible.)	Correct.
	Switches not being actuated.	Levers & cam bars for proper adjustment.	Re-adjust—Ref. Eng. Data Bul., Cam Bar Bul. & Lever Assy. Bul.
	Feed rate adjustments at manifold closed.	Make sure feed rate adjustments are open 4 or 5 turns.	Adjust—Ref. Eng. Data Bul.
Directional valve at Hyd. pump operates but spindle does not advance.	Tool or spindle binding in external support.	Disengage tool and/or loosen bracket containing support.	Re-align & cycle.
	Advance feed rate adjustment at manifold is closed.	Make sure feed rate adjustment is open 4 or 5 turns.	Adjust—Ref. Eng. Data Bul.
	Plunger valve assy. on advance side of manifold closed.	Turn advance rapid travel length adjustment counterclockwise (clockwise for deep hole units) this action should make the lever arm depress the plunger of the plunger valve assy.	If plunger does not depress, reset cam follower or lever arm on lever assy. Ref. Lever Assy. Bul.
Spindle does not retract.	Advance hyd. solenoid valve at hyd. pump not working.	Hydraulic pressure in retract supply line.	Repair or replace.
	Switch actuators.	Check adjustments.	Re-adjust.
	Defective "O" rings.	"O" ring seals in cylinder assy. and/or directional valve at pump.	Replace—Ref. Cylinder Assy. Bul.
Directional valve at hyd. pump operates but spindle does not retract.	Tool or spindle binding in external support.	Dis-engage tool and/or loosen bracket containing support.	Re-align & cycle.
	Low hyd. supply pressure.	Hyd. pressure should be between 300 to 500 p.s.i.	Regulate.
	Plunger valve assy. on retract side of manifold closed.	Turn retract cam bar knob to make lever arm depress plunger of plunger valve assy.	If plunger does not depress—reset cam follower or lever arm on lever assy. Ref. Lever Assy. Bul.
	Retract feed rate adjustment in manifold is closed.	Turn retract feed rate knob counterclockwise to open.	Adjust.
	Drive shaft & spindle coupling bind.	Remove spindle assy. and check spline tube for metal build-up.	File drive spline & spline tube for free slip movement. Lubricate.
Spindle rapid advances beyond setting of advance rapid travel length adjustment.	Seal on hydraulic piston in cylinder assy. is worn or broken.	Complete lack of control of spindle travel.	Replace piston seal Ref. Cylinder Assy. Bul.
	Hyd. piston section retaining ring in cylinder assy., loose or broken.	Complete lack of control of spindle travel, oil leaks into drive shaft area.	Replace—Ref. Cylinder Assy. Bul.
	Advance plunger assy. in manifold sticks due to defective "O" rings.	Plunger movement should follow lever movement.	Replace "O" ring or complete assy.—Ref. Manifold Assy. Bul.
	Oil too heavy in hydraulic system.	150-200 S.U.S. at 100°F hyd. oil recommended.	Drain & refill.
	Dirt in advance plunger valve assy. in manifold.	Remove & inspect valve for dirt.	Clean & re-install Ref. Manifold Assy. Bul.
Erratic feed rate.	Advance plunger valve assy. in manifold not closing.	Foreign material fouling valve.	Clean—Ref. Manifold Bul.
		Valve worn.	Replace assy. Ref. Manifold Assy. Bul.
	Advance cam bar worn.	Check.	Replace—Ref. Cam Bar Bul.
Feed rate slows.	Dirt in compensating feed valve assy. in manifold.	Remove and inspect assy. for dirt.	Clean & replace 22093-2 filters—Ref. Manifold Assy. Bul.
	Parts of compensating feed valve assy. in manifold worn.	Remove & inspect.	Replace assy. Ref. Manifold Assy. Bul.
	Feed rate adjustments at manifold closed.	Make sure feed rate adjustment is open 4 or 5 turns.	Adjust—Ref. Eng. Data Bul.
Spindle surges on tool break thru.	Hyd. supply pressure too low.	Supply pressure should be between 300-500 p.s.i.	Regulate.
	Thrust required to advance tool at desired feed rate approaches or exceeds thrust developed by Holomatic.	Consult drilling speed, feed and thrust charts and compare with developed thrust of unit.	Decrease feed rate. Increase input supply pressure. Stagger drill lengths. Decrease size or number of tools.
FOR DEEP HOLE UNITS ONLY			
Spindle full retracts after each peck feed.	Retract cam bar not adjusted correctly to actuate retract midpoint limit switch.	Check adjustment.	Adjust—Ref. Eng. Data Bul. & Cam Bar Bul.
	Retract midpoint limit switch is malfunctioning.	Check limit switch adjustment.	Replace if defective. Ref. Control Section Bul.
Spindle recycles but does not advance beyond the last stroke.	Drill.	Check cutting edges.	Replace.
	Advance cam bar friction adjustment.	Check the adjustment.	Adjust—Ref. Cam Bar Bul.
		Worn parts and/or cam bar.	Replace—Ref. Cam Bar Bul.
		Check for interference w/driver sleeve.	Correct or replace Ref. Bul. 21076-00.
	Low supply pressure.	Supply pressure should be between 300-500 p.s.i.	Regulate.
	Thrust required to advance tool at desired feed rate approaches or exceeds thrust developed by Holomatic.	Consult drilling speed, feed and thrust charts and compare with developed thrust of unit.	Decrease feed rate. Increase input supply pressure. Stagger drill lengths. Decrease size or number of tools.
Spindle peck drills 1 or 2 times then stops in full retract without completing operation.	Retract midpoint limit switch not functioning.	Check lever action.	Adjust—Ref. Eng. Data Bul.
		Check limit switch.	Replace.
Feed rate slows.	Drill re-approach clearance setting incorrect.	Check re-approach clearance. This is adjustable but should remain approximately the same thru out the entire stroke.	Adjust—Ref. Eng. Data Bul.—Cam bar replacement may be required.

MAINTENANCE PROCEDURE

HAUSE HYDRAULIC HOLOMATIC POWER FEED UNITS

GENERAL—

"Maintenance" can be an effective tool in keeping Holomatic equipment operational to a degree that will greatly reduce interruptions in the working schedule.

Based on the assumption that most malfunctions and failures are progressive in nature, spot checks of functions and conditions in critical areas can forecast events of this nature. If at all possible, this work should be done by the **same** qualified personnel, so that meaningful comparisons are possible.

The following is intended as a guide for inspections and space is provided for recording dates.

Item	Inspection	Remedy	Date
Spindle	Condition of bearings. Test for proper adjustment —by hand.	Replace bearings **or** remove assembly for adjustment of nut. (Apply small pre-load with nut.) By hand.	
	Dry bearing resulting from excessive coolant wash or excessive hi-speed.	12 months re-lubrication interval may extend life. (Push bearing spacer to one side. Fill cavity between bearings and spline tube with grease.)	
Drive Shaft	Bearings—same as spindle spline.	No adjustment—tolerate some looseness. 12 months re-lubrication may extend life. (Same procedure as for spindle.)	
Belted Drives	Belts Check for noise and wear.	Replace worn belts and/or tighten.	
	Pulleys—should be tight run concentric.	Re-tighten pulleys on shafts.	
	Gear Reductions—Look for oil leaks.	Repair or replace. Lubricate per manual instruction.	
	Listen for increased noise level from gears and bearings.	Replace and/or lubricate.	

If a breakdown occurs, THE "TROUBLE SHOOTING AIDS" in this Bul. may be helpful.

This Bul. applies specifically to hydraulic, "A" & "J" models. Service manuals also cover most phases of repair work on these.

HOLOMATIC SERVICE INFORMATION SHEET

Subject: The influence of oil Aniline Points on the volumetric stability of "O" Rings in the Hause Holomatic Units.

General: All "O" ring seals used in Holomatic products are **compression** moulded of a synthetic rubber selected for stability and resistance to wear.

In certain isolated cases, however, we have found small amounts of volume change (swelling or shrinking) which we attribute to the oil being used in the hydraulic system or injected into the air line for lubrication. When this occurs, we advise the customer to change to an oil that has a controlled aniline point value of between 180°F. and 220°F.

Most commercially available hydraulic fluids have an aniline point value of about 200°F. Normally, these are satisfactory for use in the Holomatic Hydraulic System and also for air lubrication providing they are of a proper viscosity.

As a rule, if swelling occurs, the oil being used has an aniline point value that is too low; and, if shrinking occurs, the oil has an aniline point value that is too high.

Oil companies are aware of these effects and are equipped to provide oils having compatible aniline point values with acceptable non-foaming and lubricating qualities.

More detailed information on the subject is available from "O" ring manufacturers and oil companies.

Recommended Hydraulic Oils for use in Hause Holomatic Equipment

Hause Holomatic Model	Brand Name	Approximate Aniline Degrees F
All J6 and A6 Hyd. Units and air lubricating equipment.	Standard Industron #44	211
	Mobil DTE Light	215
	‡Mobil DTE #24	215
All J2 and A2 Air Hyd. Units.	Standard Industron #34	204
	Mobil Velocite Oil #6	205
Air Line Lubricators.	Any of the above—but with adjustment due to viscosity.	--