15.125

15.875

MODEL 82647 HPU
OPERATING PROCEDURES

1. **PRE-START CHECKS**
   A. CHECK UNIT FOR LEAKS AND LOOSE OR MISSING COMPONENTS. CORRECT IF NECESSARY.
   B. CONNECT FUEL HOSES TO FUEL SOURCE.
   C. OPEN ALL FUEL SUPPLY AND RETURN VALVES.
   D. CHECK COOLANT LEVEL IN RADIATOR. ADD COOLANT MIX IF NECESSARY.
   E. CHECK ENGINE OIL. ADD ENGINE OIL IF NECESSARY.
   F. CHECK STARTING FLUID RESERVOIR LEVEL. ADD FLUID IF NECESSARY.
   G. CHECK MAIN HYDRAULIC RESERVOIR LEVEL. ADD FLUID IF NECESSARY.
   H. ENSURE HYDRAULIC PUMP SUPPLY VALVE ON OUTLET OF MAIN RESERVOIR IS OPEN.
   I. ENSURE STARTING SYSTEM CHARGE PRESSURE IS 3000 PSIG. IF NECESSARY TO INCREASE, OPEN VALVE ON HAND PUMP, INSERT HANDLE AND PUMP UP TO 3000 PSIG. THEN CLOSE VALVE ON PUMP WHEN DESIRED PRESSURE HAS BEEN REACHED. REMOVE AND RESTOW HANDLE.
   J. SET ARDT FUEL SHUT OFF LEVER TO THE START POSITION.
   K. VERIFY THAT ARDT EMERGENCY STOP IS IN STARTING POSITION.
   L. REMOVE EXHAUST EXTENSION FROM SHIPPING POSITION AND ATTACH TO MUFFLER.
   M. VERIFY THAT HYDRAULIC FLOW CONTROL IS FULLY IN.
   N. VERIFY THAT ENGINE SPEED CONTROL IS FULLY IN.

2. **START & OPERATION PROCEDURES**

   WARNING
   DO NOT OPERATE HPU IN CONFINED SPACE WITHOUT ADEQUATE VENTILATION.

   WARNING
   DO NOT USE STARTING FLUID TO START ENGINE.

   WARNING
   HAZARDOUS NOISE LEVELS MAY CAUSE HEARING LOSS. HEARING PROTECTION IS REQUIRED WHEN OPERATING THE HPU.

   A. TURN ENGINE SPEED CONTROL TWO (2) FULL TURNS COUNTERCLOCKWISE.
   B. ROTATE ENGINE START VALVE HANDLE CLOCKWISE APPROXIMATELY 90° AND HOLD UNTIL ENGINE STARTS.

   CAUTION
   DAMAGE WILL OCCUR TO THE STARTER IF THE START VALVE IS NOT FULLY CLOSED AFTER STARTING.

   C. RETURN ENGINE START VALVE TO PRE-START POSITION.
   D. ADJUST ENGINE SPEED CONTROL UNTIL AN ENGINE SPEED OF 1000 RPM IS OBTAINED.
   E. OBSERVE OIL PRESSURE GAUGE IMMEDIATELY AFTER STARTING. THE OIL PRESSURE SHOULD BE AT LEAST 20 PSIG AT 1000 RPM.
   F. INSPECT ENGINE AND HYDRAULIC PUMP FOR LEAKS AND EXCESSIVE VIBRATION.

   CAUTION
   AVOID UNNECESSARY ENGINE IDLING. PROLONGED IDLING COULD CAUSE INCOMPLETE COMBUSTION, OIL DILUTION, SLUDGE IN THE CRANKCASE, FORMATION OF VARNISH AND DEPOSITS ON VALVES, PISTONS, AND RINGS.

   G. OPERATE ENGINE AT 1000 RPM AT NO LOAD FOR APPROXIMATELY 15 MINUTES TO WARM UP THE ENGINE.
   H. CHECK WATER TEMPERATURE GAUGE. NORMAL ENGINE OPERATING TEMPERATURE RANGE IS 160°F TO 210°F.
   I. CHECK CHARGE PRESSURE GAUGE. NORMAL CHARGE PRESSURE RANGE IS 200-350 PSIG.

   CAUTION
   TO PREVENT DAMAGE TO EQUIPMENT, ENSURE THE PRESSURE LIMITER SETTING DOES NOT EXCEED THE MAXIMUM SYSTEM OPERATING PRESSURE OF THE DEVICE THAT IS TO BE CONNECTED TO THE HPU.

   J. VERIFY THE PRESSURE LIMITER SETTING ON THE PRIMARY HYDRAULIC PUMP AS FOLLOWS:
      1) OBSERVE HYDRAULIC SUPPLY PRESSURE GAUGE. READING SHOULD BE 0 PSIG.

      CAUTION
      DO NOT EXCEED THE MAXIMUM PRESSURE LIMITER SETTING OF 4000 PSIG.

      2) TURN HYDRAULIC FLOW CONTROL COUNTER CLOCKWISE IN ONE REVOLUTION INCREMENTS UNTIL PRESSURE IS OBSERVED ON THE HYDRAULIC SUPPLY PRESSURE GAUGE. PRESSURE WILL INCREASE TO THE PRESSURE LIMITER SETTING AND STABILIZE.
      3) IF THE PRESSURE LIMITER SETTING REQUIRES ADJUSTMENT, PROCEED AS FOLLOWS:
         a. LOOSEN THE LOCK NUT ON THE LOWER PRESSURE LIMITER ADJUSTING SCREW.
         b. WHILE MONITORING THE HYDRAULIC SUPPLY PRESSURE GAUGE, USE A 5MM ALLEN WRENCH AND TURN THE ADJUSTING SCREW (1/2 TURN INCREMENTS) CLOCKWISE TO INCREASE PRESSURE OR COUNTERCLOCKWISE TO DECREASE PRESSURE UNTIL DESIRED PRESSURE IS OBTAINED.
         c. WHEN DESIRED PRESSURE IS OBTAINED, TIGHTEN THE LOCK NUT ON THE PRESSURE LIMITER ADJUSTING SCREW.
      4) TURN THE HYDRAULIC FLOW CONTROL CLOCKWISE TO THE FULLY IN, ZERO (0) FLOW POSITION.
   K. TURN ENGINE SPEED CONTROL CLOCKWISE TO REDUCE ENGINE SPEED TO IDLE.
   L. PULL THE STOP HANDLE TO THE FULLY OUT POSITION AND HOLD UNTIL THE ENGINE STOPS. PUSH THE STOP HANDLE FULLY IN.
   M. CONNECT SUPPLY, RETURN AND CASE DRAIN HOSES FROM THE DEVICE TO BE DRIVEN TO THE HPU.
   N. SET ARDT FUEL SHUT-OFF LEVER TO THE START POSITION.
   O. REPEAT STEPS 2B THRU 2E ABOVE.

   CAUTION
   DO NOT EXCEED 1000 RPM.

   CAUTION
   DO NOT EXCEED MAXIMUM HYDRAULIC PRESSURE OF 4000 PSIG AND FLOW OF 11 GPM.

   P. TURN ENGINE SPEED CONTROL COUNTERCLOCKWISE TO INCREASE SPEED TO 2100 RPM.

   CAUTION
   TO PREVENT DAMAGE TO EQUIPMENT, DO NOT EXCEED THE MAXIMUM SYSTEM OPERATING PRESSURE OF THE DEVICE CONNECTED TO THE HPU.

   Q. TURN HYDRAULIC FLOW CONTROL COUNTERCLOCKWISE UNTIL DESIRED FLOW IS OBTAINED.
   R. CHECK ALL INSTRUMENT PANEL GAUGES TO VERIFY THAT THEY ARE WITHIN THE NORMAL OPERATING RANGE.

3. **SHUTDOWN PROCEDURE**
   A. SIMULTANEOUSLY TURN HYDRAULIC FLOW CONTROL AND ENGINE SPEED CONTROL CLOCKWISE TO REDUCE FLOW TO ZERO (0) AND ENGINE SPEED TO 1200 RPM.
   B. OPERATE ENGINE FOR 10 TO 15 MINUTES FOR COOL DOWN.
   C. REDUCE ENGINE SPEED TO IDLE.
   D. PULL THE STOP HANDLE TO THE FULLY OUT POSITION AND HOLD UNTIL THE ENGINE STOPS. PUSH THE STOP HANDLE FULLY IN.
   E. CLOSE FUEL SUPPLY AND RETURN VALVES.

4. **EMERGENCY SHUTDOWN PROCEDURE**

   CAUTION
   THIS SHUTDOWN PROCEDURE SHOULD ONLY BE USED IN AN ACTUAL EMERGENCY SITUATION. BECAUSE THE PROCEDURE CAN ALLOW OIL TO BE DRAWN INTO THE SEALS AND INTO THE BLOWER HOUSING, DO NOT TRY TO RESTART UNTIL THE CAUSE OF THE MALFUNCTION HAS BEEN CORRECTED.

   A. IF THE ENGINE DOES NOT STOP WHEN USING NORMAL SHUTDOWN PROCEDURES, PULL THE EMERGENCY STOP HANDLE FULLY OUT. THIS WILL CUT OFF AIR SUPPLY TO THE ENGINE.
   B. AFTER THE ENGINE STOPS, PUSH THE EMERGENCY STOP HANDLE FULLY IN AND OPEN THE SHUTDOWN AIR VALVE.

BLACK LETTERING ALUMINUM BACKGROUND

7 OPERATING PROCEDURES LABEL

YELLOW BACKGROUND/ BLACK LETTERING

12.0 × 2.0

UNIT WEIGHT: 3850 LBS

.750 TEXT HEIGHT

9 UNIT WEIGHT LABEL

4.0 × 5.0

CAUTION

CONTENTS UNDER PRESSURE 3000 PSI

.75 TEXT HEIGHT

.40 TEXT HEIGHT

YELLOW BACKGROUND BLACK LETTERING

8 CONTENTS UNDER PRESSURE LABEL

2.0 × 4.25

CAUTION

HOT SURFACE

YELLOW BACKGROUND BLACK LETTERING

WHITE BACKGROUND

BLACK

RED

RED

.55

.275

1.25

YELLOW BACKGROUND BLACK LETTERING

.325 TEXT HEIGHT

10 HOT SURFACE LABEL

LAYOUT FOR LABELS 15 THRU 26

3.00

2.3125 MAXIMUM TEXT LENGTH

1/4" DIA POP RIVET HEAD

.125 D HOLE

TYPICAL NAMEPLATE

.375

.75

.1875

BLACK LETTERING ALUMINUM BACKGROUND

YELLOW BACKGROUND BLACK LETTERING

1.75 × 1.125

.125

.14 TEXT HEIGHT

11 ACCUMULATOR DE-PRESSURIZED LABEL

YELLOW BACKGROUND BLACK LETTERING

1.75 × 1.125

.14 TEXT HEIGHT

.125

12 ACCUMULATOR PRESSURIZED LABEL

YELLOW BACKGROUND BLACK LETTERING

1.0 × .50

.15 TEXT HEIGHT

13 FUEL SUPPLY LABEL

YELLOW BACKGROUND BLACK LETTERING

1.0 × .50

.15 TEXT HEIGHT

14 FUEL RETURN LABEL

ENGINE SPEED 0-2125 RPM	15 ENGINE SPEED LABEL
ENGINE WATER TEMP 160-210 F	16 ENGINE WATER TEMP. LABEL
HYDRAULIC SUPPLY PRESSURE 0-4000 PSI	17 HYDRAULIC SUPPLY PRESSURE LABEL
ENGINE START VALVE	18 ENGINE START VALVE LABEL
ENGINE OIL PRESSURE 20-60 PSI	19 ENGINE OIL PRESSURE LABEL
CHARGE PRESSURE 200-350 PSI	20 CHARGE PRESSURE LABEL
STARTING SYSTEM PRESSURE 0-3000 PSI	21 STARTING SYSTEM PRESSURE LABEL
EMERGENCY STOP	22 EMERGENCY STOP LABEL
HYDRAULIC RETURN PRESSURE 40-95 PSI	23 HYDRAULIC RETURN PRESSURE LABEL
HYDRAULIC FLOW CONTROL	24 HYDRAULIC FLOW CONTROL LABEL
ENGINE STOP	25 ENGINE STOP LABEL
ENGINE SPEED CONTROL	26 ENGINE SPEED CONTROL LABEL

SIZE	CAGE CODE	SYMB	DRAWING NO.	REV
F	OMWHO		826160CG	–
SCALE: NONE			SHEET 2 OF 2	CADD

826160CG