DAR75H: 99900700: 19950522



Model DAR75H Rotary Screw Air Compressor





## IOWA MOLD TOOLING CO., INC.

BOX 189, 500 HWY 18 WEST, GARNER, IA 50438 TEL: 515-923-3711 TECHNICAL SUPPORT FAX: 515-923-2424 MANUAL PART NUMBER 99900700

# PRECAUTIONS

Read before operating your compressor!



# **A** DANGER

## EXPLODING TANK WILL CAUSE DEATH, SERIOUS INJURY OR PROPERTY DAMAGE

- Drain air tank after each use to prevent moisture build-up and corrosion which leads to tank failure.
- Assure that tank and compressor relief valves work properly, and are at correct pressure settings.
- DO NOT modify or repair air tank.
- NEVER drive vehicle with pressure in air tank.

MANUAL

Failure to follow operating and maintenance procedures as outlined in this manual could result in equipment damage, personal injury or death. Follow all maintenance procedures and intervals.



Maintenance must be performed only by trained and qualified personnel, using correct tools, specified torques and approved replacement parts.



All electrical components and cable wiring must be installed and grounded in accordance with NFPA, national electrical codes and applicable state and local codes.



Before removing guards or servicing the compressor, disconnect all power supplies. Display warning signs and lock out electrical circuits.



All guards must be in position and secure before and during operation.



Do not use air from this compressor for breathing or food processing. Air from this compressor will cause severe injury or death if used for breathing or food processing.



Hot oil under pressure can cause severe injury or death. Shut down, let cool and relieve pressure in compressor before servicing.



Do not overfill the compressor with oil. Use correct quantity of manufacturer's lubricant. Repair leaks and clean spills immediately.



Compressors generate high temperatures. Do not touch or otherwise come in contact with hot surfaces. Doing so can cause severe personal injury.

## TABLE OF CONTENTS

PARA	TITLE PAGE
Sectio	n 1. COMPRESSOR SAFETY
1-1.	SAFETY HAZARDS1-1
1-2.	SAFETY PRECAUTIONS1-1
Sectio	n 2. SPECIFICATIONS
2-1.	MODEL IDENTIFICATION2-1
2-2.	SPECIFICATIONS
2-3.	FEATURES2-1
Sectio	n 3. COMPRESSOR DESCRIPTION
3-1.	COMPRESSOR DESCRIPTION
3-2.	COMPRESSOR CYCLE
3-3.	AIR FLOW
3-4.	OIL FLOW AND COOLING SYSTEM 3-2
3-5.	OIL COOLER
3-6.	AIR/OIL RESERVOIR
3-7.	CAPACITY CONTROL SYSTEM
Sectio	n 4. ELECTRICAL SYSTEM
4-1.	GENERAL
4-2.	OPERATION
4-3.	INSTRUMENTATION
4-3-1.	AIR TEMPERATURE
100	

4-3.	INSTRUMENTATION	
4-3-1.	AIR TEMPERATURE	
4-3-2.	AIR PRESSURE	
4-3-3.	PERCENT CAPACITY	
4-3-4.	AIR/OIL SEPARATOR	
4-3-5.	OIL FILTER	
4-3-6.	HOURMETER	

#### Section 5. OPERATING PROCEDURES

5-1.	PRIOR TO STARTING	5-1
5-2.	STARTING THE COMPRESSOR	5-1
5-3.	STOPPING THE COMPRESSOR-	
	NORMAL OPERATION	5-1
5-4.	STOPPING THE COMPRESSOR-	
	EMERGENCY STOP	5-1

## Section 6. SERVICE ADJUSTMENT

SERVICE ADJUSTMENTS	6-1
DIFFERENTIAL PILOT VALVE	E 6-1
PRESSURE SWITCH	6-1
BELT ADJUSTMENT	6-1
OIL SPECIFICATIONS	6-2
OIL LEVEL	6-2
MAINTENANCE SCHEDULE.	6-2
	SERVICE ADJUSTMENTS DIFFERENTIAL PILOT VALVE PRESSURE SWITCH BELT ADJUSTMENT OIL SPECIFICATIONS OIL LEVEL MAINTENANCE SCHEDULE .

### Section 7. TROUBLESHOOTING

#### Section 8. PARTS

8-1.	GENERAL8-1	
8-2.	ORDERING REPAIR PARTS8-1	

# LIST OF ILLUSTRATIONS

FIGURE		DAOE
		PAGE 2 1
C-1.		2-1
0-2.		3-2
C-3.	REFERENCE PHOTO	3-3
C-4.	REFERENCE PHOTO	3-4
C-5.	REFERENCE PHOTO	3-4
C-6.	CONTROL PIPING SCHEMATIC-	
	CAPACITY CONTROL SYSTEM	3-5
D-1.	ELECTRICAL SYSTEM DIAGRAM	4-1
D-2.	INTERNAL RELAY WIRING	4-1
D-3.	INSTRUMENTATION PHOTO	4-2
F-1.	DIFFERENTIAL PILOT VALVE	6-1
F-2.	BELT ADJUSTMENT NUTS	6-1
H-1.	PARTS REFERENCE PHOTO 1	8-1
H-2.	PARTS REFERENCE PHOTO 2	8-2
H-3.	PARTS REFERENCE PHOTO 3	8-3
H-4.	PARTS REFERENCE PHOTO 4	8-4
H-5.	PARTS REFERENCE PHOTO 5	8-5
H-6.	PARTS REFERENCE PHOTO 6	8-6
H-7.	PARTS REFERENCE PHOTO 7	8-7
H-8.	PARTS REFERENCE PHOTO 8	8-8
H-9.	PARTS REFERENCE PHOTO 9	8-9
H-10.	PARTS REFERENCE PHOTO 10	8-10
H-11.	WIRING DIAGRAM-FURNAS SWITCH	8-11
H-12.	SPEED CONTROL INSTALLATION	8-12

## **SECTION 1. COMPRESSOR SAFETY**

## **1-1. SAFETY HAZARDS**

Three means are used throughout this manual to gain attention of personnel to safety hazards. They are DANGER, WARNING and CAUTION and are defined as follows:

#### DANGER

IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

#### WARNING

HAZARDS OR UNSAFE PRACTICES THAT COULD RESULT IN PERSONAL INJURY OR DEATH.

#### CAUTION

HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN MINOR PERSONAL INJURY, PRODUCT OR PROPERTY DAMAGE.

## **1-2. SAFETY PRECAUTION**

Listed here are some, but not all safety precautions that must be observed with compressors and compressed air systems.

#### DANGER

FAILURE TO FOLLOW ANY OF THESE WARNINGS MAY RESULT IN SEVERE PERSONAL INJURY, DEATH, PROPERTY DAMAGE AND/OR COMPRESSOR DAMAGE.

• Do not use air from this compressor for breathing or food processing.

• This compressor is designed for use in the compression of normal atmospheric air only. No other gases, vapors or fumes should be exposed to the compressor intake, nor processed through the compressor.

- Disengage PTO prior to servicing unit.
- Relieve all pressure internal to the compressor prior to servicing. Do not depend on check valves to hold system pressure.

• Do not change the pressure setting of the safety relief valve, restrict the function of the safety relief valve, or replace the safety relief valve with a plug. Over pressurization of system or compressor components can occur, resulting in severe personal injury, death and property damage.

- Never use a flammable or toxic solvent for cleaning the air filter or any parts.
- Do not attempt to service any part while the compressor is operating.l Do not remove any guards or canopy panels while the compressor is operating.
- Observe gauges daily to ensure compressor is operating properly.
- Follow all maintenance procedures and check all safety devices on schedule.1 Never disconnect or tamper with the high air temperature switch.

• Compressed air is dangerous, do not play with it. I Use the correct lubricant at all times.

### DANGER

AIR USED FOR BREATHING OR FOOD PROCESSING MUST MEET O.S.H.A. 29 C.F.R. 1910.134 OR F.D.A. 21 C.F.R. 178.3570 REGULATIONS. FAILURE TO DO SO WILL CAUSE SEVERE INJURY OR DEATH.

## WARNING

READ THIS MANUAL AND FOLLOW ALL INSTRUCTIONS PRIOR TO INSTALLING OR OPERATING THIS COMPRESSOR.

## SECTION 2. SPECIFICATIONS

## **2-1. MODEL IDENTIFICATION**

The model identification is as follows:



## 2-2. SPECIFICATIONS

#### **DELIVERY**:

75 CFM @ 100 PSI

#### DRIVE:

HYDRAULIC MOTOR

### WEIGHT:

480 LBS (with sound reducing enclosure)

#### **DIMENSIONS:**

33.5"W X 21"H X 21"D

### COOLING:

AIR

#### **OPERATING SPEED:**

HYDRAULIC DRIVE MOTOR: 2360 RPM PUMPING UNIT: 6300 RPM

### LUBRICANT:

SYNTHETIC OIL, -70° POUR POINT, 460° FLASH POINT

### HYDRAULIC POWER REQUIREMENTS:

26 GPM @ 2400 PSI (MAX)

## 2-3. FEATURES

- INSTRUMENTATION
  - AIR PRESSURE GAUGE
  - AIR DISCHARGE TEMPERATURE GAUGE
  - PERCENT CAPACITY GAUGE
  - SEPARATOR DIFFERENTIAL PRESSURE GAUGE
  - OIL FILTER DIFFERENTIAL PRESSURE GAUGE
- PRESSURE MODULATION
- TRIPLE LIP SHAFT SEAL
- SPIN ON OIL AND SEPARATOR FILTER ELEMENTS
- HIGH AIR TEMPERATURE SAFETY SHUT DOWN

## SECTION 3. COMPRESSOR DESCRIPTION

## **3-1. COMPRESSOR DESCRIPTION**

The DAR75H is a single stage, positive displacement, oil-flooded, helical screw type unit. The drive rotor is driven through a Polychain® belt arrangement.

Radial loads are carried on cylindrical roller needle bearings on the power or suction end of the compressor. Radial and axial loads are carried on tapered roller bearings at the discharge end of the compressor.

Lubricant circulation is maintained by the pressure differential between the reservoir pressure and the vacuum level on the suction side of the airend. With the total closure inlet valve used, an adequate differential can be maintained to insure proper lubrication.

## **3-2. COMPRESSION CYCLE**

The compression cycle of a rotary compressor is a continuous process from intake to discharge with no reciprocating mechanisms starting and stopping as found in reciprocating compressors. The compressor consists of two rotors in constant mesh, housed in a cylinder with two parallel adjoining bores. All parts are machined to exacting tolerances.

As the rotors revolve, (clockwise as viewed from the power input end) air is drawn into the cylinder through the inlet port located at the power input end. A volume of air is trapped as the rotor lobes pass the inlet cut off points in the cylinders. Compression occurs as the male rotor rolls into the female flute, progressively reducing the space, thereby raising the pressure. Compression continues until the lobe and flute pass the discharge port. The compressed air is then discharged. There are five complete compression cycles for each complete revolution of the male rotor. See Figure C-2.

## 3-3. AIR FLOW

With the compressor operating, a partial vacuum is produced at the compressor inlet. Air entering via the compressor air filter flows through the air inlet valve into the rotor housing where it is compressed, then discharged. The air discharged from the compressor contains oil which is removed from the air as it passes through an oil separator. Compressed air then passes through a minimum pressure check valve to the service connection. See Figure C-2 and C-5.



FIGURE C-1. COMPRESSOR CROSS-SECTION

#### DAR75H: 99900700: 19950522

The quantity of air entering the compressor is regulated by the air inlet valve located between the air filter and the compressor inlet port. The position of the air inlet valve is automatically controlled during normal operation by air demand. When the inlet valve is in the closed position it serves as a check valve, preventing the backflow of air or oil into the air filter.

The air/oil reservoir is equipped with a safety valve to protect the system in the event of a malfunction in the capacity and pressure control systems. The standard air/oil reservoir is rated at 200 PSIG maximum pressure. A minimum pressure feature is provided in the service line to limit the maximum air velocity through the sparator.

### 3-4. OIL FLOW AND COOLING SYSTEM

The oil in the system serves three functions: it lubricates the bearings and the rotors, it seals rotor clearances to improve efficiency, and it removes heat from the air as the air is being compressed, thus lowering the compressed air discharge temperature.

A diagram of the oil flow system is shown in Figure C-2. Air pressure in the air/oil reservoir forces oil out of the reservoir, through the oil cooler, through a 10-micron oil filter and then into the compressor. In

the compressor, some of the oil is diverted directly to the bearings through internal passages to insure positive lubrication to the bearings. The remainder of the oil is injected ino the early stage of the compressor cycle to seal clearances and lubricate the rotors.

## 3-5. OIL COOLER

The oil, air cooler combination is the finned tube design. Ambient air is blown through the fins by a fan mounted on the drive motor shaft. The cooler fins must be kept clean at all times. Oil leaving the cooler passes through a thermal mixing valve before traveling on to the compressor. The purpose of the thermal valve (Figure C-4) is to mix oil from the cooler with the uncooled oil to maintain a minimum oil injection temperature at the compressor of 140°F. Maximum oil temperature cannot exceed 220°F.

### 3-6. AIR/OIL RESERVOIR

The air/oil reservoir performs several functions (Figure C-3). Air and oil from the compressor is directed through a discharge port to the reservoir through a diffuser. This action forces much of the oil to fall down into the reservoir. Additional baffling within the reservoir causes the remaining air/oil mixture to change directions, thus removing more oil from the air.



#### DAR75H: 99900700: 19950522

The remaining oil mist coalesces in a separator element as the air passes through. This oil collects on the bottom and is forced through an oil scavenge line back to the compressor. Compressed air leaving the reservoir contains very litle oil.

The air/oil reservoir is equipped with a safety valve, an oil fill opening, and a sight tube oil level gauge.

## **3-7. CAPACITY CONTROL SYSTEM**

A control piping schematic is shown in Figure C-6.

As the motor starts driving the compressor rotors, air is drawn in, compressed and discharged into the air/ oil reservoir. When the air pressure in the air/oil reservoir exceeds 130 PSIG, the differential pilot valve opens, passing a controlled volume of air to the inlet valve air cylinder. The air forces a piston to move within the cylinder, closing the inlet valve. The compressor will continue to run, matching air demand with air delivery by constantly adjusting the position of the inlet valve. The inlet valve regulates compressor capacity between 100% and 0% of rated delivery.

When maximum pressure has been obtained in the air system, compressor unloading occurs. The pressure switch located in front of the hydraulic motor breaks contact. The 3-way solenoid valve located between the reservoir and the air/oil separator opens, venting the residual pressure to the blowdown valve and allows the air/oil reservoir to vent through the air filter. At the same time, control air from the air/oil reservoir check valve is directed through the 3-way solenoid to the inlet valve air cylinder. The inlet valve is held in a closed position preventing the intake of air into the compressor and to serve as a check valve by preventing reverse air/oil flow through the inlet valve and air filter.

![](_page_8_Picture_8.jpeg)

3-3

![](_page_9_Picture_0.jpeg)

![](_page_9_Figure_1.jpeg)

![](_page_9_Picture_2.jpeg)

**FIGURE C-5. REFERENCE PHOTO** 

![](_page_10_Figure_1.jpeg)

FIGURE C-6. CONTROL PIPING SCHEMATIC-CAPACITY CONTROL SYSTEM

## SECTION 4. ELECTRICAL SYSTEM

## 4-1. GENERAL

The electrical system (Figure D-1) is designed to accomplish the following:

1. Speeds up the engine (and compressor) when the pressure in the air service line (tank) is below 120 PSI.

2. Slows down the engine (and compressor) when the pressure in the air service line (tank) has reached the maximum pressure of 150 PSI.

3. Operate the compressor hourmeter when the compressor is in use.

4. Unloads the compressor after maximum pressure has been reached.

5. Stops the compressor when the compressor oil temperature exceeds 225° F.

6. Disables the engine speed control when the PTO is disengaged.

YEL

## **4-2. OPERATION**

When the PTO is engaged, a ground is provided to one terminal of the air solenoid valve, the hourmeter and the high air temperature probe. Terminals 30 and 87a of the relay are also grounded.

To start the compressor, the toggle switch must be moved to the "ON" position. As soon as this happens:

• The speed control solenoid (in the truck engine compartment) is energized through the pressure switch which is normally closed. Engine RPM is increased to 1100 RPM.

 The air solenoid valve closes and allows air system pressure to open the air inlet valve according to air demand.

The hourmeter starts to run.

The hydraulic solenoid diverter valve closes and forces the oil from the hydraulic pump into the hydraulic motor. Compressor starts turning.

> As soon as the air system pressure has reached the preset maximum pressure, the pressure switch breaks contact between the "LINE" and "MOTOR" terminals and de-energizes the air solenoid valve and the speed control. Truck engine returns to low idle.

Should the air temperature exceed 225°F due to a malfunction, such as when oil level is too low or cooling is inadequate, the high temperature probe opens contacts and deenergizes the relay. The diverter valve returns to its normally open position and allows oil from the hydraulic pump to bypass the compressor drive motor and stops the compressor.

![](_page_12_Figure_19.jpeg)

MOTOR O 0 **HIGH TEMP** PROBE (N.C.) PRESSURE SWITCH (N.C.) BLK BLK LINE RED DIVERTER VALVE (N.O.) RED RED YEL RED BLK 87 SOLENOID HOURMETER 87A VALVE (N.O.) 85 RELAY BLK RED 30 BLK JUNCTION Ċ Ċ BOX ENGINE  $\sim$ SPEED CONTROL RELAY (GROUNDED ONLY TO TOGGLE SWITCH WHEN PTO IS (IGNITION HOT 12V) ENGAGED) GROUND

FIGURE D-1. ELECTRICAL SYSTEM DIAGRAM

FIGURE D-2. INTERNAL RELAY WIRING

### DAR75H: 99900700: 19950522 4-3. INSTRUMENTATION

## 4-3-1. AIR TEMPERATURE

Indicates the compressed air temperature. When temperature reaches 225°F, automatic shut down of the compressor will occur.

## 4-3-2. AIR PRESSURE

Indicates the air pressure available for distribution to the service lines. (Pressure in air/oil reservoir not air receiver pressure.)

## 4-3-3. PERCENT CAPACITY

This gauge is graduated in percent of the total air delivery capacity of the compressor. Readings taken from this gauge give an indication of the amount of air being used. When the compressed air needs of a specific application have been met, the gauge should read close to 0%. This will happen when rated pressure has been reached compressor will run in unloaded mode - speed control will be de-energized.

## 4-3-4. AIR OIL SEPARATOR

Indiates pressure differential across the air/oil separator element. Used to determine separator element change intervals.

## 4-3-5. OIL FILTER

Indicates pressure differential across oil filter element. Used to determine element change interval.

## 4-3-6. HOURMETER

Indicates actual hours of operation. Used to determine manintenance intervals by registering when the PTO is engaged and compressor switch is "ON".

![](_page_13_Picture_13.jpeg)

AIR / OIL FILTER	OIL	PERCENT	AIR PRESSURE	DISCHARGE AIR TEMPERATURE	HOUR
		en norr	THEODOTIE	End End one	

## SECTION 5. OPERATING PROCEDURES

## **5-1. PRIOR TO STARTING**

• Locate compressor so as to have reservoir in a horizontal or near horizontal position.

• Be certain no loose articles such as tools are on or near the compressor or the fan.

• Check oil level in the air/oil reservoir with the compressor in or near a horizontal position.

- Check all pressure connections for tightness.
- Make certain all panels and guards are in place and securely mounted.

• Open all manual shut off valves beyond the air/oil reservoir.

• Check the hydraulic circuit providing oil to the compressor: Pump mounting, tightness of hydraulic fittings, hydraulic control valve and hydraulic cooler connections.

## **5-2. STARTING THE COMPRESSOR**

- Open service valve to the air distribution system.
- Start the truck engine and engage the PTO.

• Set compressor toggle switch to the "ON" position and watch for excessive vibrations, unusual noises or air/oil leaks. If anything unusual developes, stop the compressor immediately and correct the problem.

• Observe the compressor operation for proper performance:

• The vehicle engine speed should increase as soon as the switch is turned "ON".

• With no air demand on the system, the capacity gauge should be on or about 100% until the system pressure builds up to approximately 130 PSI. As the system pressure continues to increase past 130 PSI, the capacity gauge should go from 100% to near 20% as the system pressure increases to 150 PSI (maximum setting of pressure switch). When the system pressure reaches 150 PSI, the compressor should go into the unloaded mode indicated by the capacity gauge falling to between 0% and 20% and the truck engine speed returning to low idle.

• Observe compressor performance closely the first hour of operation and frequently the following seven hours.

## 5-3. STOPPING THE COMPRESSOR-NORMAL OPERATION

n Close the service valve to the air distribution system.n Allow pressure to build up in the air/oil reservoir and the compressor to fully unload, THEN turn off the compressor toggle switch.

#### NOTE

TURN OFF THE COMPRESSOR SWITCH ONLY AFTER THE COMPRESSOR IS IN THE UNLOADED MODE. FAILURE TO DO SO WILL RESULT IN BACKFLOW OF AIR/OIL MIXTURE TO THE AIR FILTER.

## 5-4. STOPPING THE COMPRESSOR-EMERGENCY STOP

Note that the following methods should only be used in emergency situations as they can cause a backflow of air/oil mixture to the air filter.n Turn compressor toggle switch "OFF". This will interrupt the "ignition hot" wire to the compressor, open the diverter valve and allow hydraulic oil from the pump to return to tank without driving the compressor.orn Disengage PTO.

#### NOTE

THE ENCLOSURE PANELS MUST REMAIN IN PLACE AT ALL TIMES FOR PROPER COOLING. FAILURE TO DO SO WILL CAUSE THE COMPRESSOR TO OVERHEAT AND SHUT DOWN. MAKE SURE ALL PANEL SEALING SURFACES AND MATERIALS REMAIN IN GOOD CONDITION.

#### WARNING

UNDER NO CIRCUMSTANCES SHOULD A COMPRESSOR BE INSTALLED IN AN AREA THAT MAY BE EXPOSED TO A TOXIC, VOLATILE OR CORROSIVE ATMOSPHERE NOR SHOULD TOXIC, VOLATILE OR CORROSIVE AGENTS BE STORED NEAR THE COMPRESSOR.

### WARNING

NEVER REMOVE, BYPASS OR TAMPER WITH THE SAFETY HAT SWITCH. FAILURE TO PROVIDE THIS SAFETY FEATURE MAY CAUSE SEVERE PERSONAL INJURY, DEATH, AND PROPERTY DAMAGE. IF THE COMPRESSOR IS SHUTTING DOWN DUE TO HIGH DISCHARGE TEMPERATURE CONTACT A QUALIFIED SERVICE MAN IMMEDIATELY.

## SECTION 6. MAINTENANCE

## 6-1. SERVICE ADJUSTMENTS

## 6-1-1. DIFFERENTIAL PILOT VALVE

Open a manual vent valve to allow the compressor to exhaust air to the outside and start the unit. By manual regulation slowly close the valve, allowing the unit to build air pressure to 135 PSIG and hold. Adjust the screw on the bottom of the differential pilot valve so that a slight stream of air can be felt coming from the orifice adjacent to the adjustment screw and the percent capacity gauge starts o move off the 100% load position. When this air is felt, air is beginning to pass through the pilot valve to the air cylinder on the inlet valve, causing the valve to modulate toward its closed position, thereby, reducing the volume of air being compressed.

To raise pressure, turn the adjusting screw in (clockwise). To lower pressure, turn the adjusting screw out (counterclockwise). Never exceed these pressures. Minimum full load pressure with modulation is 135 PSIG.

#### NOTE

MAINTENANCE SHOULD ONLY BE PERFORMED BY TRAINED AND QUALIFIED PERSONNEL.

#### WARNING

NEVER ADJUST THE PRESSURE SWITCH HIGHER THAN THE FACTORY SETTING. SEVERE PERSONAL INJURY, DEATH AND COMPRESSOR OR PROPERTY DAMAGE MAY RESULT.

#### WARNING

THE AIR/OIL RESERVOIR MUST NOT BE MODIFIED, WELDED, REPAIRED OR REWORKED. SUCH ACTIONS MAY CAUSE SEVERE PERSONAL INJURY, DEATH AND PROPERTY DAMAGE.

![](_page_16_Figure_12.jpeg)

FIGURE F-1. DIFFERENTIAL PILOT VALVE

## 6-1-2. PRESSURE SWITCH

The pressure switch determines at what pressure the compressor will load and unload. Standard factory settings are 115 PSI (load) and 150 PSI (unload). Never exceed these pressures. If a lower setting is desired, adjust the differential pilot valve first and set the pressure switch cut-out point no more than 15 PSIG over the desired full load pressure. Method of adjustments are provided to increase both cut out and cut in pressures and to increase cut out pressure without affecting cut in. Procedures are shown inside pressure switch cover. The pressure switch should unload the compressor by the time it reaches the 20% load point.

### 6-1-3. BELT ADJUSTMENT

The compressor utilizes an over-under drive belt arrangement. Adjustment or replacement of the drive belt requires the locknut "A" to be loosened and adjustmen nut "B" to be backed off to relieve tension or adjusted out to apply tension. See Figure F-2.

#### DANGER

HOT OIL UNDER PRESSURE WILL CAUSE SEVERE INJURY OR DEATH. DO NOT REMOVE THE OIL FILL PLUG NOR ATTEMPT TO ADD OIL TO THE AIR/OIL RESERVOIR WHILE THE COMPRESSOR IS IN OPERATION OR WHEN THE AIR/OIL RESERVOIR IS UNDER PRESSURE. BE SURE THAT THE COMPRESSOR CONTROL SWITCH AND THE MAIN POWER DISCONNECT SWITCH ARE IN THE OFF POSITION AND LOCKED OUT TO ASSURE THAT THE COMPRESSOR WILL NOT START AUTOMATICALLY OR BY ACCIDENT.

![](_page_16_Figure_20.jpeg)

### DAR75H: 99900700: 19950522 6-2. OIL SPECIFICATIONS

We recommend that all IMT Rotary Screw Compressors be filled with synthetic lubricant, IMT part number 89086151.

## 6-3. OIL LEVEL

Oil level should be in the green on the sight level gauge while the compressor is in operation.

**DO NOT OVERFILL:** Operating above the green line will result in high oil carryover.

**DO NOT UNDERFILL:** Operating in the red zone will cause a high temperature shutdown.

### CAUTION

DO NOT MIX COMPRESSOR LUBRICATING OIL WITH ANY OTHER LUBRICANT. FAILURE TO FOLLOW THESE RECOMMENDATIONS WILL CAUSE SEVERE OIL BREAKDOWN, RESULTING IN THE FORMATION OF HEAVY VARNISH AND SLUDGE THROUGHOUT THE SYSTEM. THIS WILL RESULT IN CLOGGING OIL SEPARATORS, COOLERS AND INTERNAL OIL PASSAGES IN THE COMPRESSOR. WARRANTY WILL BE VOIDED.

PERIODICALLY/DAILY 8 HRS MAXIMUM	Visually check all gauges and indicators for normal operation.	
	Check oil level.	
	Visually check for oil leaks.	
	Check for unusual noise of vibration.	
WEEKLY	Check safety valve operation.	
MONTHLY	Service air filter as needed (daily or weekly if extremely dirty conditions exist).	
	Clean oil cooler fins.	
	Wipe entire unit down to maintain appearance.	
	Check safety shut down system by disconnecting wire to diverter valve (on back of hydraulic motor) and attempt to start the compressor. It should not start.	
6 MONTHS OR EVERY 1000 HRS	Change oil filter.	
	Change air filter.	
	Check all fasteners for tightness.	
PERIODICALLY/YEARLY	Change oil separator.	
OK EVERY 2000 HOUKS	Change oil. See oil specifications above.	

## **6-4. MAINTENANCE SCHEDULE**

# SECTION 7. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION	
FAILURE	PTO not engaged	Engage truck PTO	
10 31AN1	Motor not turning	Hydraulic pump defective	
		Hydraulic diverter valve defective	
		Hydraulic relief valve defective	
		Hydraulic motor defective	
	Drive belt failure	Replace belt	
	Drive belt failure	Replace belt	
SHOTDOWN	Hydraulic system failure	Check system and replace defective components (See above)	
	High air temperature	Low oil level - ADD	
		Inadequate cooling - CLEAN	
		Excessive air demand - REDUCE	
UNSCHEDULED	High air temperature	Check temperature gauge	
	Speed reduction	Check temperature gauge	
		Check hydraulic circuit	
		Check speed control	
		Check truck transmission torque converter lockup (if so equipped)	
LOW AIR DELIVERY	Plugged air intake filter element	Clean or replace air filter element	
	Excessive leaks in service lines	Check service lines for leaks	
	Inlet valve not opening fully	Check inlet valve not opening or closing in relation to air demand	
	Compressor speed too low	Check setting of speed control/hydraulic pump flow & setting of relief valve	
LOW RECEIVER	Excessive air demand	Reevaluate air demand	
	Excessive leaks in service lines	Check service lines for leaks with soap suds	
	Inlet valve not fully open	Correct the situation in accordance with instructions in "Inlet Valve Not Opening or Closing in Relation to Air Demand" section of this troubleshooting guide	
	Plugged air intake filter	Clean or replace air filter element	
	Differential pilot valve not set correctly	Readjust differential pilot valve to achieve desired modulation range	
	Air pressure	Readjust the air pressure switch to the desired cut-in and cut-out pressure	
	Faulty receiver pressure gauge	Check and if faulty, replace	

PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
HIGH RECEIVER PRESSURE	Air pressure switch not set correctly	Readjust the air pressure switch so that the unload pressure does not exceed the maximum recommended operator pressure
	Inlet valve not closing at lower air demand	Correct the situation in accordance with the instructions in "Inlet Valve Not Opening Or Closing In Relation To Air Demand" section of this troubleshooting guide
	Blowdown valve not relieving receiver pressure	Check control solenoid and blowdown valve
FREQUENT AIR/OIL SEPARATOR CLOGGING	Faulty air filter or inadequate filter for the environment	If faulty air filter element(s), replace them. If air filter is inadequate for the environment, replace it with a heavy duty filter
	Faulty oil filter	Replace oil filter element
	Oil breakdown	Correct situation in accordance with the instructions in "Oil Breakdown" section of this troubleshooting guide
	Incorrect oil separator element	Use genuine replacement elements only
	Extreme operating conditions such as high oil injection and compressor temperatures, high ambient temperature with high humidity and high receiver pressure	Operate compressor at recommended receiver pressure and oil injection temperature. 140°F oil inlet temperature minimum. increase oil and filter changes
	Oil contamination	Change oil. Service air filter element and oil filter element promptly in accordance with the recommended schedule
OIL COMING OUT THROUGH BLOW	Too high oil level in receiver	Bring oil level to recommended level by draining the receiver. Use oil level gauge as a guide
DOWN VALVE	Cycling too often between load and unload	Correct the situation in accordance with the instructions in "Too Rapid Cycling Between Load & Unload" section of this troubleshooting guide
	Air/oil reservoir blows down too fast	Check blow down valve
	Inlet valve not closing completely	Correct the situation in accordance with the instructions in "Inlet Valve Not Open Or Closing In Relation To Air Demand" section of this troubleshooting guide

#### DAR75H: 99900700: 19950522

PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
FREQUENT OIL	Faulty indicator	Replace indicator assembly
	Incorrect oil filter	Use genuine Quincy replacement filters only
	Faulty, incorrect or inadequate air filter	Replace air filter element
	Oil breakdown	See "Oil Breakdown" section of this troubleshooting guide
	System contamination	Check and clean system of all dirt, corrosion and varnish
	Inadequate circulation of cooling air at the cooler	Check the location of the cooler to make certain that there is no restriction to free circulation of cooling air. Also check fins at the cooler and if dust laden, clean with air while the machine is not running
	Low oil level in the reservoir	Add oil to recommended level. Also check the oil system for possible leaks
	Clogged oil filter	Replace oil filter element
	Clogged oil cooler	Check oil cooler for varnishing and rust deposits. If this condition exists, clean cooler thoroughly in accordance with recommended procedures of the heat exchanger manufacturer
	Excessive ambient temperatures	Maximum ambient temperature for proper operation is 110°F
	Incorrect fan rotation	Correct rotation with the fan pushing the air up through the coolers
	Improper oil	Use recommended oils only-see Lubrication section
	Clogged air filter	Clean or replace as necessary
	Faulty thermal valve	Repair or replace as necessary
	Faulty gauges	Check and replace
	Airend failure	Contact an authorized distributor
	Too high oil level in receiver	Bring oil level down to recommended level by draining receiver. Use oil level gauge as guide
	Plugged scavenger line	Clean scavenger line orifice and tube
	High oil injection temperature	Correct the situation in accordance with the instructions in "High Discharge Air Temp" section of this troubleshooting guide
	Too low receiver pressure with fully open inlet valve	Receiver pressure should not fall below 50 PSIG when running loaded. If it does, consult factory
	Faulty or damaged separator	Change air/oil separator
	Leak in oil lines	Check leaks and correct
	Seal failure, leaks	Replace seal assembly

PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
FREQUENT AIR CLEANER	Compressor operating in highly contaminated atmosphere	Use remote air intake supply
	Air cleaner not adequate for conditions	Use a specialized air filter. Contact an authorized Quincy distributor
INLET VALVE NOT OPENING OR	Improper setting of air pressure switch or faulty switch	Readjust air pressure switch to proper setting. If switch is faulty, replace
RELATION TO AIR DEMAND	Excessive moisture in the control air line at the air cylinder	Check automatic moisture separator for proper operation. Replace if necessary
	Improper functioning of inlet valve piston	Check piston, and cylinder bore. Repair or replace as needed
	Jammed air inlet valve assembly	Check air inlet valve, bushing or shaft. Check piston and cylinder bore. Repair or replace as necessary
	Fauly differential pilot valve	Repair or replace as necessary
	Broken spring in air inlet valve	Replace spring
	Faulty solenoid valve	Repair or repalce as necessary
	Faulty shuttle valve	Repair or replace as necessary
	Loose wiring connections at solenoid valve/pressure switch	Check and tighten wiring terminals
	Incorrect air pressure switch setting	Adjust pressure switch to proper setting
WHEN THERE IS NO AIR DEMAND	Faulty pressure switch	Replace switch
	Faulty blow down valve	Repair or replace as necessary
	Faulty solenoid valve	Repair or replace as necessary
	Faulty differential pilot valve	Orifice plugged-clean or replace as necessary
	Leaks in control lines	Check all control line fittings and tubing
	Leaks in service lines	Check plant air distribution system for leaks
	Loose or broken wires	Check all wire terminals for tightness. Replace any broken or pinched wires
COMPRESSOR	Faulty pressure switch	Repair or replace as necessary
REVERT TO LOAD	Loose wiring connection	Check and tighten wiring terminals
LINE PRESSURE	Jammed air inlet valve assembly	Check and repair air inlet valve
	Faulty solenoid	Repair or replace as necessary
RANGE	Faulty differential pilot valve	Orifice plugged, clean or replace as necessary

#### DAR75H: 99900700: 19950522

PROBLEM POSSIBLE CAUSE		PROBABLE SOLUTION	
TOO RAPID CYCLING BETWEEN	Too small volume in service line	Provide sufficient volume by adding additional air receivers to the plant system	
LOAD AND UNLOAD	Unload pressure setting at the air pressure switch too close in relation to the setting of the differential pilot valve	Set air pressure switch and differential pilot valve to provide sufficient range between the pressure at which modulation starts and the pressure at which compressor unloads. 15 PSI differential minimum	
	Leaks in control lines	Check and repair any leaks	
	Faulty air pressure switch	Repair or replace as necessary	
	Water or ice in control lines	Drain lines, service filter, check differential pilot valve orifice	
EXCESSIVE WATER	Incorrect operating temperatures	Check thermal valve. Oil inlet temperature 140°F	
DISTRIBUTION	Clogged moisture separator/trap	Clean or replace as required	
	Discharge air too hot/holds moisture	Add optional aftercooler package if not equipped	
	Installation/application	Check other compressors on same system	
SAFETY VALVES	Differential pressure regulator not set correctly	Readjust differential pressure regulator to obtain desired modulation range	
	Air pressure switch not set correctly	Readjust air pressure switch so that compressor unloads at the desired pressure	
	Air inlet valve not closing properly in relation to air demand	Correct the situation with the instructions in "Inlet Valve No Opening Or Closing In Relation To Air Demand" section of this troubleshooting guide	
	Plugged separator	Replace with new air/oil separator	
	Faulty receiver pressure gauge	Check gauge for accuracy and replace if necessary. Readjust controls	
	Faulty safety valve	Check safety valve for correct pressure setting. If valve is still leaking, replace	

## 8-1 **SECTION 8. PARTS**

## 8-1. GENERAL

This section includes photos with parts callouts and parts lists for assistance in locating parts and their part numbers.

## 8-2. ORDERING REPAIR PARTS

When ordering repair parts, furnish product support with the following information.

> **COMPRESSOR MODEL NUMBER COMPRESSOR SERIAL NUMBER** PART NUMBER (IF KNOWN) PART DESCRIPTION QUANTITY REQUIRED

Order replacement parts by contacting:

IOWA MOLD TOOLING CO., INC. BOX 189, GARNER, IA 50438-0189 Telephone: 515-923-3711 Fax: 515-923-3674

or Contact your local distributor.

![](_page_24_Picture_10.jpeg)

ITEN	I PART NO.	DESCRIPTION	QTY
1.	70056491	SHEAVE SPROCKET-MOTOR	1
2.	70580088	BELT-POLYCHAIN	1
3.	70056490	SHEAVE SPROCKET-AIR END	1
4.	72060559	SET SCREW	1
5.	70144844	KEY-AIR END SHAFT	1
6.	60250286	SPACER-FAN	1
7.	52711574	BASE WELDMENT	1
8.	72053765	ELBOW	1
9.	52711575	OIL/AIR RESERVOIR	1
10.	72053640	ADAPTER	1
11.	73570163	CHECK VALVE	1
12.	70144895	TUBE-TANK TO SEARATOR	1
13.	70144845	BUSHING-SHEAVE	1

## FIGURE H-2. PARTS REFERENCE PHOTO 2

		DECODIDITION	OTV
	PART NO.	DESCRIPTION	QIT
1.	73570164	SAFETY VALVE	1
2.	72531751	ELBOW 1/4NPT 3/8POLY-FLO 90°	2
3.	72053537	ADAPTER 3/8NPT 1/4FPT SWVL	1
4.	70030247	TUBE-SIGHT GAUGE	1
5.	71393717	DECAL-OIL LEVEL	1
6.	77041463	SENDING UNIT-HIGH AIR TEMP	1
7.	60117431	ELBOW 90° SPECIAL	1
8.	72531132	STREET ELBOW 3/8NPT 90° STL	1
9.	72053508	PIPE NIPPLE 3/8NPT X 7	1
10.	72531100	ELBOW 3/8NPT 90° STL	1
11.	72532660	PIPE PLUG 3/8NPT HEX HD STL	1
12.	70144889	TUBE-AIR END TO TANK	1
13.	60117092	MANIFOLD-AIR CONTROL	1
14.	77041251	RELAY	1
4 -	F0744F70		

![](_page_25_Figure_4.jpeg)

## **FIGURE H-3. PARTS REFERENCE PHOTO 3**

ITEN	I PART NO.	DESCRIPTION	QTY
1.	72532371	ADAPTER #20MSTR #16MJIC	1
2.	73054741	SOLENOID VALVE	1
3.		COIL-SOLENOID VALVE	1
4.	72531837	REDUCER BUSHING 1-1/4 1NPT STL	1
5.	72531430	ELBOW 1NPT #16MJIC 90°	1
6.	72066179	COTTER PIN	2
7.	72532668	ELBOW #12MSTR #10MJIV 90°	1
8.	60117077	BRACKET-SEPARATOR	1
9.	52711568	MOTOR PIVOT WELDMENT-BOTTOM	1
10.	52711569	MOTOR PIVOT WELDMENT-TOP	1
11.	60117079	HINGE PIN	1
12.	72601681	CAP SCR 1/2-13X1-1/2 FLH SOC GR5	2
13.	72062080	NUT 1/2-13 HEX NYLOC	2
14.	73051787	HYDRAULIC MOTOR	1
15.	72532144	PLUG	1
16.	73054740	RELIEF VALVE	

![](_page_26_Picture_4.jpeg)

## FIGURE H-4. PARTS REFERENCE PHOTO 4

ITEM PART NO.	DESCRIPTION	QTY
1. 60250287	INSTRUMENT PANEL	1
2. 60117090	BRACKET-INSTRUMENT PANEL	1
3. 52711693	BRACKET-PRESSURE SWITCH	1
4. 71393712	DECAL-ROTATION ARROW	1
5. 77041369	PRESSURE SWITCH	1
6. 73570165	MODULATOR VALVE	1
7. 60106760	BRACKET-MODULATOR VALVE	1
8. 70030247	TUBE-SCAVENGE 1/4 CLEAR	1
9. 72053513	ADAPTER #8MSTR 1/4FPT	1
10. 72533367	QUICK CONNECTOR 1/8 TUBE F	4REF
11. 72533368	QUICK CONNECTOR 1/4 TUBE F	2REF
12. 73570160	PILOT UNLOADER	1
ITEMS 10 & 11	ARE PART OF QUICK CONNECT KIT	
(70732910)		

![](_page_27_Picture_4.jpeg)

## FIGURE H-5. PARTS REFERENCE PHOTO 5

ITEM	PART NO.	DESCRIPTION	QTY	
1.	73570163	CHECK VALVE	1	
2.	73570164	SAFETY VALVE	1	
3.	77041463	SENDING UNIT (HIGH TEMP GAUGE)	1	
4.	72531131	STREET ELBOW	1	
5.	72053537	ADAPTER 3/8NPT 1/4FPT SWVL	1	
6.	72531132	STREET ELBOW 3/8NPT 90° STL	1	
7.	70030247	TUBE-SIGHT GAUGE	1	
8.	73570168	SOLENOID VALVE 3-WAY	1	
9.	70048176	LINE FILTER	2	
10.	60117087	BRACKET-MOISTURE FILTER	1	
11.	72060610	SCREW	6	
12.	73570166	SHUTTLE VALVE	1	
13.	72532013	STREET TEE 1/4NPT BRS	1	
14.	72533346	ELBOW 1/4 QUICK CONNECT	5REF	
15.	72531751	ELBOW	2REF	
16.	70030247	SCAVENGE TUBE 1/4 CLEAR	1REF	
17.	72533348	CONNECTOR "Y" QUICK CONNECT	1REF	
18.	72532371	CONNECTOR	1	
ITEMS 14-17 ARE PART OF QUICK CONNECT KIT (70732910)				

![](_page_28_Picture_4.jpeg)

## **FIGURE H-6. PARTS REFERENCE PHOTO 6**

ITEM	PART NO.	DESCRIPTION	QTY
1.	83014294	TUBE 2-1/4 OD X 4-1/4 L	1
2.	73570163	CHECK VALVE	1
3.	72531130	ELBOW	2
4.	73570166	SHUTTLE VALVE	1
5.	70393707	GASKET-AIR INTAKE	2
6.	52711657	ELBOW-AIR INTAKE	1
7.	73570161	INLET VALVE	1
8.	72533347	ELBOW-QUICK CONNECT 1/8 TUBE	4REF
9.	73570167	BLOW DOWN VALVE	1REF
10	72533350	CONNECTOR-OUICK CONNECT 1/4TURE	1RFF

ITEMS 8-10 ARE PART OF QUICK CONNECT I/4T0BE TREE ITEMS 8-10 ARE PART OF QUICK CONNECT KIT (70732910)

![](_page_29_Figure_5.jpeg)

### FIGURE H-7. PARTS REFERENCE PHOTO 7

ITEM PART NO. DESCRIPTION QTY 1. 71373724 DECAL-CAUTION MANUAL 1 2. 71373725 DECAL-DANGER FOOD PROC 1 3. 71393726 DECAL-WARNING DISCONNECT PWR 1 4. 71393728 DECAL-WARNING HOT SURFACES 1 5. 71393711 DECAL-CAUTION HOT OIL 1 6. 71393713 DECAL-WARNING GUARDS 1 7. 71393710 DECAL-CAUTION BELT TENSION 1 8. 71393709 DECAL-WARNING TANK PRESSURE 1 9. 72601410 CAP SCR 1/4-20X3/4 BTNHD ZC 20 10. 71393716 DECAL-DAR75H IDENTIFICATION 1 11. 71393715 DECAL-DIAMOND AIR SERIES 1 12. 71393714 DECAL-CONTROL PANEL 1 1

![](_page_30_Picture_4.jpeg)

## **FIGURE H-8. PARTS REFERENCE PHOTO 8**

QTY

1

1

4

1

1

1

- ITEM PART NO. DESCRIPTION
- 1. 60117126 BRACE-HORIZONTAL-OIL COOLER 1 2. 71393712 DECAL-ROT'N(ON TOP OF COOLER) 1
- 3. 70144843 OIL COOLER
- 4. 71393713 DECAL-WARNING GUARD 5. 76391527 BUMPRER-RUBBER MOUNTING
- 6. 71393727 DECAL-DANGER HOT OIL
- 7. 71393728 DECAL-WARNING HOT SURFACE
- 8. 89392397 DUCT-AIR INLET
- 9. 72531430 ELBOW 1MPT #16MJIC 90°

![](_page_31_Picture_12.jpeg)

## FIGURE H-9. PARTS REFERENCE PHOTO 9

ITEM	I PART NO.	DESCRIPTION	QTY
1.	70731671	HOURMETER	1
2.	70048183	GAUGE-AIR DISCHARGE TEMP	1
3.	70048177	GAUGE-AIR PRESSURE	1
4.	70048178	GAUGE-PERCENT CAPACITY	1
5.	70048180	GAUGE-OIL FILTER DIFFERENTIAL	1
6.	77048179	GAUGE-SEPARATOR DIFFERENTIAL	1
7.	73029579	BASE-SEPARATOR ELEMENT	1
8.	60117091	ELBOW 90° SPECIAL	1
9.	73570162	CHECK VALVE-MINIMUM PRESSURE	1
10.	70048182	ELEMENT-SEPARATOR	1
11.	72532687	CAP-OIL FILL	1
12.	60117093	TUBE-OIL FILL	1
13.	70732829	AIR END (COMPRESSOR UNIT)	1
14.	70144890	TUBE ASM-OIL FILTER TO THERM VLV	1
15.	73570169	THERMAL VALVE	1
16.	72532362	ADAPTER	1
17.	70048181	ELEMENT-OIL FILTER	1
18.	70144894	TUBE-THERMAL VALVE TO COOLER	1
19.	70144892	TUBE-TANK TO TEE	1
20.	70034419	FAN-OIL COOLER	1
21.	70144888	TUBE-OIL FILTER TO COMPRESSOR	1
22.	70144843	OIL COOLER	1
23.	70144891	TUBE-OIL COOLER TO THERMAL VLV	1
24.	72532363	ADAPTER	1
25.	73029578	BASE-OIL FILTER	1

![](_page_32_Figure_4.jpeg)

## **FIGURE H-10. PARTS REFERENCE PHOTO 10**

6

5

3

1

#### **OPTIONAL ENCLOSURE COMPONENTS**

ITEM PART NO. DESCRIPTION QTY 1. 51711663 PANEL ASM-REAR (INCL: 2) 1 2. 70393689 INSULATION 1-1/4 FOAM (PART OF 1) 1 3. 51711665 PANEL ASM-FRONT (INCL:4) 4. 70393690 INSULATION 1-1/4 FOAM (PART OF 3) 1 5. 70393685 INSULATION -LOUVRE SIDE(PART OF 6) 1 6. 51711664 ENCLOSURE (INCL:5,7-11) 1 7. 70393685 INSULATION-TOP 1-1/4 (PART OF 6) 1 8. 76393681 INSULATION 7X18X1-1/4 (PART OF 6) 2 9. 70393688 INSULATION-INST PNL SIDE(PART OF 6) 1 10. 76393680 INSULATION 3-1/4X7X1-1/4(PART OF 6) 1 11. 76393682 INSULATION 5-1/2X7X1-1/4(PART OF 6) 1

#### STANDARD ENCLOSURE COMPONENTS

ITEM PART NO. DESCRIPTION 1. 52711572 REAR PANEL QTY 1 3. 52711573 FRONT PANEL 1 6. 52711664 ENCLOSURE 1 10 q 11 -2

8-11

## FIGURE H-11.WIRING DIAGRAM-FURNAS SWITCH (99900169)

![](_page_34_Figure_3.jpeg)

## FIGURE H-12.SPEED CONTROL INSTALLATION (99900296)

ITEM PART NO.	DESCRIPTION	QTY	ITEM PART NO.	DESCRIPTION	QTY
1. 77041479	SOLENOID-TROMBETTA W/CABLE	1	14. 77041251	RELAY	2
2. 72066377	CABLE STOP	1	15. 77040052	TERM-RING 3/8STUD 12-10GA	1
3. 72060638	MACH SCR #10-24X1 RDHD	2	16. 77040048	BUTT CONNECTOR 16-14GA	2
4. 72062106	NUT #10-24 LOCK	2	17. 89044232	WIRE 14GA RED	20FT
5. 72060002	CAP SCR 1/4-20X3/4 HHGR5	5	18. 89044274	WIRE 14GA BLK	4FT
6. 72062104	NUT 1/4-20 LOCK	6	19. 89044234	WIRE 14GA YEL	4FT
7. 72060004	CAP SCR 1/4-20X1 HHGR5	1	20. 89044235	WIRE 14GA WHT	4FT
8. 60118524	LINKAGE BRACKET	1	21. 70394092	DECAL-BRK/CMPRSR	1
9. 72063001	WASHER 1/4 WRT	1	22. 51712961	DIODE-BRK/CMPRSR	1
10. 77040053	TERM-RING 1/4 12-10GA	3	23. 77040282	TERM PIGBAC 16-14GA 1/4TAB	1
11. 77040283	CABLE END	1	24. 99900169	WIRING DIAGRAM	REF
12. 77040051	TERM-#8SPRSPD 16-14GA	16	25. 99900296	INTALLATION DWG	REF
13. 77040186	TERM-1/4FSLPON 16-14GA	4	26. 93091419	SPD CTRL KIT (INCL:1-25)	REF

![](_page_34_Figure_6.jpeg)

#### DAR75H: 99900700: 19950522

8-13

The information within this manual has been compiled and checked but errors do occur. To provide our customers with a method of communicating those errors we have provided the Manual Change Request form below. In addition to error reporting, you are encouraged to suggest changes or additions to the manual which would be of benefit to you. We cannot guarantee that these additions will be made but we do promise to consider them. When completing the form, please write or print clearly. Submit a copy of the completed form to the address listed below.

## MANUAL CHANGE REQUEST

DATE	PRODUCT				
SUBMITTED BY					
COMPANY					
ADDRESS					
CITY, STATE ZIP					
TELEPHONE					
ERROR FOUND					
LOCATION OF ERROR (page	no.) <u>:</u>				
DESCRIPTION OF ERROR:					
	MANUAL				
DESCRIPTION OF ADDITION:	DESCRIPTION OF ADDITION:				
REASON FOR ADDITION:					
Ň	/AIL TO:	IOWA MOLD TOOLING Co., In	)C.		
		Box 189, Garner IA 50/38-0189			
		ATTN: Technical Publications			

## LIMITED WARRANTY

WARRANTY COVERAGE - Products manufactured by Iowa Mold Tooling Co., Inc. (IMT) are warranted to be free from defects in material and workmanship, under proper use, application and maintenance in accordance with IMT's written recommendations, instructions and specifications as follows:

1. Ninety (90) days; labor on IMT workmanship from the date of shipment to the end user.

2. One (1) year; original IMT parts from the date of shipment to the end user.

IMT's obligation under this warranty is limited to, and the sole remedy for any such defect shall be the repair or replacement (at IMT's option) of unaltered parts returned to IMT, freight prepaid, and proven to have such defect, provided such defect occurs within the above stated warranty period and is reported within fourteen (14) days of its occurence.

IMPLIED WARRANTY EXCLUDED - This is the only authorized IMT warranty and is in lieu of all other express or implied warranties or representations, including any implied warranties of merchantability or fitness for any particular purpose or of any other obligations on the part of IMT.

ITEMS EXCLUDED - The manufacturer gives no warranty on any components purchased by the manufacturer, and such components as are covered only by the warranties of their respective manufacturers.

WARRANTY CLAIMS - Warranty claims must be submitted and shall be processed in accordance with IMT's established warranty claim procedure.

WARRANTY SERVICE - Warranty service will be performed by any IMT distributor authorized to sell new IMT products of the type involved or by any IMT Service Center authorized to service the type of product involved or by IMT in the event of direct sales made by IMT. At the time of requesting warranty service, the purchaser must present evidence of the date of delivery of the product. The purchaser shall pay any premium for overtime labor requested by the purchaser, any charge for making service calls and for transporting the equipment to the place where warranty work is performed. WARRANTY VOIDED - All obligations of IMT under this warranty shall be terminated:(1) if service other than normal maintenance or normal replacement of service items is performed by someone other than an authorized IMT dealer, (2) if product is modified or altered in ways not approved by IMT.

PURCHASER'S RESPONSIBILITY - This warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper protection in storage, or improper use. The purchaser has the obligation of performing the care and maintenance duties discussed in IMT's written recommendations, instructions and specifications. Any damage which results because of purchaser's failure to perform such duties shall not be covered by this warranty. The cost of normal maintenance and normal replacement of service items such as filters, belts, etc. shall be paid by the purchaser.

CONSEQUENTIAL DAMAGES - The only remedies the purchaser has in connection with the breach or performance of any warranty on IMT products are those set forth above. In no event will the dealer, IMT or any company affiliated with IMT, be liable for business interruptions, loss of sales and/or profits, rental or substitute equipment, costs of delay or for any other special, indirect, incidental or consequential losses, costs or damages.

REPRESENTATIONS EXCLUDED - IMT products are subject to no expressed, implied or statutory warranty other than herein set forth, and no agent, representative or distributor of the manufacturer has any authority to alter the terms of this warranty in any way whatsoever or to make any representations or promises, express or implied, as to the quality or performance of IMT products other than those set forth above.

CHANGE IN DESIGN - IMT reserves the right to make changes in design or improvements upon its products without imposing any obligation upon itself to install the same upon its products theretofore manufactured.

Effective January, 1985

This parts manual is provided to the user to assist in servicing the equipment. It is the property of Iowa Mold Tooling Co., Inc and, as such, may not be reproduced either whole or in part, whether by chemical, electrostatic, mechanical or photographic means without the expressed written permission of an officer of Iowa Mold Tooling Co., Inc. One manual is provided with each piece of new equipment and additional manuals may be obtained at a nominal price.

![](_page_37_Picture_17.jpeg)

IOWA MOLD TOOLING CO., INC. BOX 189, GARNER, IA 50438-0189 TEL: 515-923-3711 TECHNICAL SUPPORT FAX: 515-923-2424