

# Quincy QR-25<sup>®</sup> Series Model 310

Parts Manual • Record of Change 105

This manual contains important safety information and should be made available to all personnel who operate and/or maintain this product. Carefully read this manual before attempting to operate or perform maintenance on this compressor.

*Fill Out & Return*  
Warranty Registration Card Located Inside

## Quincy Compressor<sup>®</sup>

True Blue Reliability<sup>™</sup>

Manual No. 50214-105

March 2005 Edition

*Manual Brought to You By: [IndustrialAirPower.com](http://IndustrialAirPower.com)*

# INTRODUCTION

This manual provides information for the following QR-25 Series, Model 310 (Record of Change 105) compressor versions:

<b>P</b>	<b>Control Version P</b> plain head assembly & no controls
<b>L</b>	<b>Control Version L</b> head assembly with 2 unloader towers & a hydraulic unloader
<b>S</b>	<b>Control Version S</b> head assembly with 2 unloader towers & a pilot valve
<b>LS</b>	<b>Control Version LS</b> head assembly with 2 unloader towers, a hydraulic unloader, & a pilot valve with a check valve assembly
<b>LVD</b>	<b>Control Version LVD</b> head assembly with 2 unloader towers, a hydraulic unloader, & a pilot valve with a lockout & check valve

These compressors are aircooled, two stage, two cylinder, pressure lubricated compressors, with up to 200 p.s.i. continuous pressure capability (*201 to 500 p.s.i. intermittent pressure capability with proper configuration; consult factory*). The Model 310 has a 3.5" low pressure piston bore and a 2.5" high pressure piston bore and a 2.5" stroke and can be run at 400-920 r.p.m.

Available options included in this manual:

- high pressure rated cylinder and head
- spin-on oil filter
- hooded air filter
- hooded air filter / silencer

# CHANGES

since previous printing (dated June 2000):

The crankcase breather was redesigned.

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# MODEL & SERIAL NUMBER IDENTIFICATION

Record  
of  
Change No.

MODEL		
SERIAL NO.		
<b>Quincy</b> <b>Compressor Division</b>		
110831		

**Model & Serial Number  
Identification Tag**

The model & serial number tag is located on the handhole plate side of the crankcase. Fill in the numbers from your compressor's tag in the corresponding spaces provided here and reference this page when ordering replacement parts.

All replacement parts are to be ordered through an authorized Quincy distributor. Insist on genuine Quincy parts only! Failure to do so may void warranty.

## ORDERING REPLACEMENT PARTS

Prompt service can be rendered on repair parts orders if the following information is given:

- Item 1)** the model number, record of change number, & serial number.
- Item 2)** the exact part number needed. (Do not order by item numbers.)
- Item 3)** the exact quantity needed.
- Item 4)** the preferred type of transportation

## QUIN-CIP® LUBRICANT

Refer to the chart below to order Quin-Cip compressor lubricant from your local authorized Quincy distributor.

Package	Part No.	Description
Barrel	112541D032	55 gal., SAE 10W
Pail	112541P032	5 gal., SAE 10W
Gallon	112541G032	1 gal., SAE 10W
Gallon Case	112541X032	(4)-1 gal., SAE 10W
Quart	112541Q032	1 qt., SAE 10W
Quart Case	112541C032	(12)-1 qt., SAE 10W
<hr/>		
Barrel	112542D068	55 gal., SAE 20
Pail	112542P068	5 gal., SAE 20
Gallon	112542G068	1 gal., SAE 20
Gallon Case	112542X068	(4)-1 gal., SAE 20
Quart	112542Q068	1 qt., SAE 20
Quart Case	112542C068	(12)-1 qt., SAE 20
<hr/>		
Barrel	112543D100	55 gal., SAE 30
Pail	112543P100	5 gal., SAE 30
Gallon	112543G100	1 gal., SAE 30
Gallon Case	112543X100	(4)-1 gal., SAE 30
Quart	112543Q100	1 qt., SAE 30
Quart Case	112543C100	(12)-1 qt., SAE 30

## CRANKCASE LUBRICANT CAPACITY

Model	Less Filter	With Filter
310	1½ Qts.(1.42 lit.)	Add 10 oz.(295ml.)

### CAUTION !

Refer to the QR-25 Series Instruction Manual for vital lubrication information.

### CAUTION !

Follow all safety precautions outlined in the QR-25 Series instruction manual.

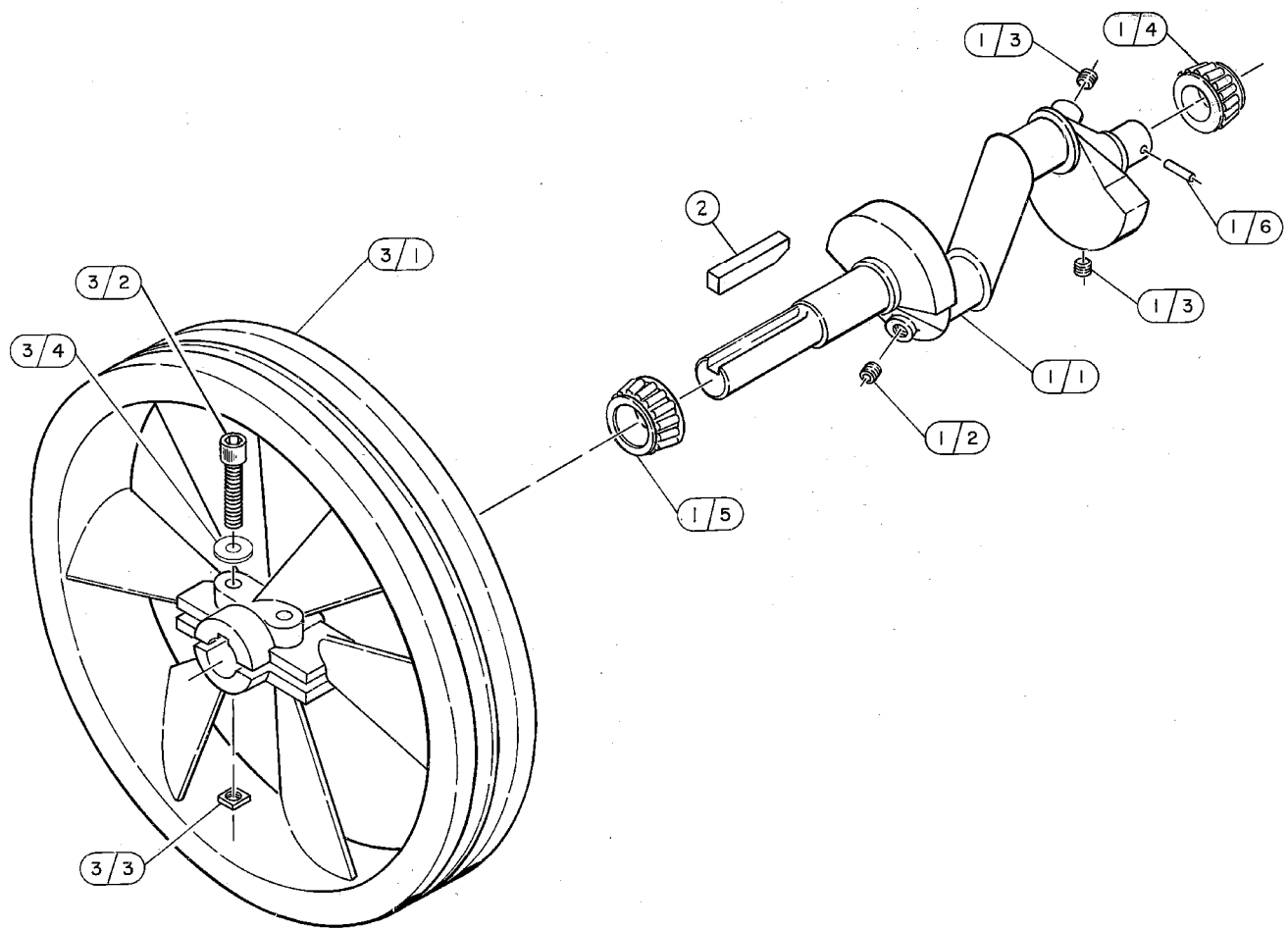
### WARNING !

Do not operate this compressor without a totally enclosed belt guard or any other required safety equipment.

### DANGER !

Air used for breathing or food processing must meet OSHA 1910.134 or FDA 21 CFR 178.3570 regulations. Failure to do so may cause severe injury or death.

# CRANKSHAFT GROUP 110438



# CRANKSHAFT GROUP 110438

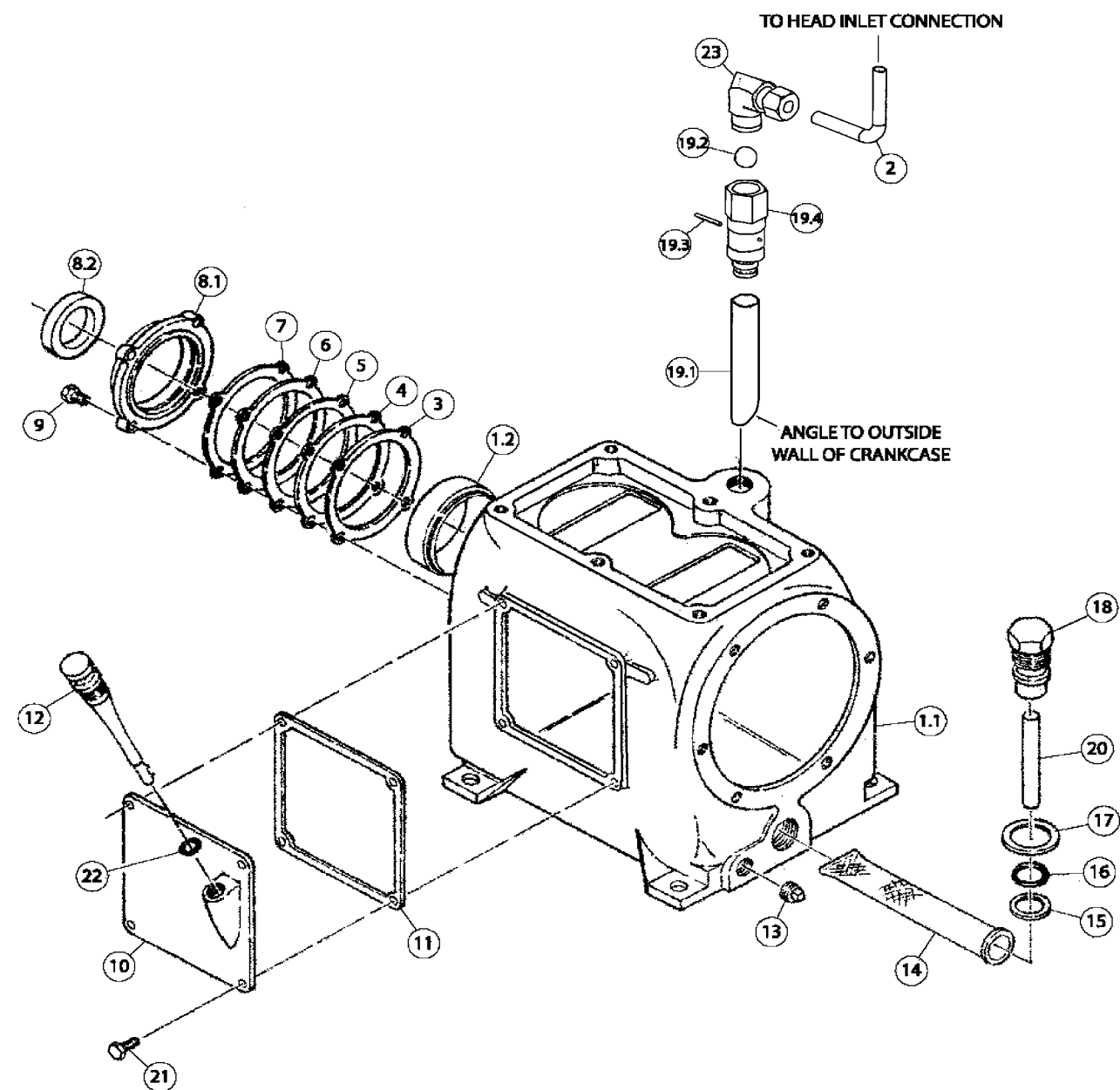
Item Number	Qty.	Part Number	Description
1	1	110219	crankshaft assembly
1.1	1	110218	crankshaft (N.S.S.; order 110219)
1.2	1	110234	orifice, 1/8 npt
1.3	2	2755S	pipe plug, 1/8 npt
1.4	1	4019	bearing cone
1.5	1	2585	bearing cone
1.6	1	110705-F15	pin
2	1	1761	key
3	1	2917X	sheave assembly
3.1	1	2917	sheave, compressor, 14", 1G,B sect, ccw (N.S.S.; order 2917X)
3.2	2	124239-001	socket head screw, 3/8-16 UNC X 2.75, Grade 5 (@ 30 ft.-lbs.)
3.3	2	124372-L02	square nut, 3/8-16 unc
3.4	2	110428W038	flatwasher
For high pressure rated compressors			
3	1	2919X	sheave assembly
3.1	1	2919	sheave, compressor, 14", 2G, B sect, ccw (N.S.S.; order 2919X)
3.2	2	124239-001	socket head screw, 3/8-16 unc X 2.75, grade 5 (@ 30 ft.-lbs.)
3.3	2	124372-L02	square nut, 3/8-16 unc
3.4	2	110428W038	flatwasher

N.S.S. = Not Sold Separate

@ Indicates torque value (dry threads)

Note: For reversal of compressor rotation refer to QR-25 instruction manual.

# CRANKCASE GROUP 110437-003



# CRANKCASE GROUP 1 10437-003

Item Number	Qty.	Part Number	Description
1	1	5513X002	crankcase assembly
1.1	1	5513-002	crankcase
1.2	1	2523	bearing cup
2	2 ft.	110515-031	copper tube, 5/16 o.d.
3	2	1832	shim, bearing adjustment, .005, steel
4	*	1832A	shim, bearing adjustment, .007, steel
5	*	1832B	shim, bearing adjustment, .020, steel
6	*	1832C	shim, bearing adjustment, .005, paper
7	*	1832D	shim, bearing adjustment, .002 steel
8	1	5516X	adjustment plate assembly
8.1	1	5516	adjustment plate (.0015/.003 crankshaft end play)
8.2	1	6315	oil seal
9	4	123478-L10	hex. screw, 3/8-16 unc x .75, grade 5 (@ 30 ft.-lbs.)
10	1	2321	inspection plate
11	1	1598	gasket, inspection plate
12	1	110070-2	oil gauge
13	1	1301	pipe plug, 3/8 npt
14	1	6272	screen
15	1	6313	gasket, inlet screw
16	1	123157-116	"o"ring, 3/32 wide x .94 o.d.
17	1	6275	gasket, inlet screw
18	1	6273	oil inlet screw
19	1	112031X001	breather assembly
19.1	1	112032-001	breather tube
19.2	1	5783-002	ball
19.3	1	110705-C11	roll pin, 3/32 x .81
19.4	1	112031-001	breather body
20	1	8270	tube
21	4	114629	hex. screw, 5/16-18 unc x 1.00, grade 5 (@ 5 ft.-lbs.)
22	1	123157-112	"o"ring, 3/32 wide x .69 o.d.
23	1	110919-010	tube fitting, 5/16 tube x 3/8 npt, 90°

## Parts for use with diester or phosphate ester synthetic based lubricants

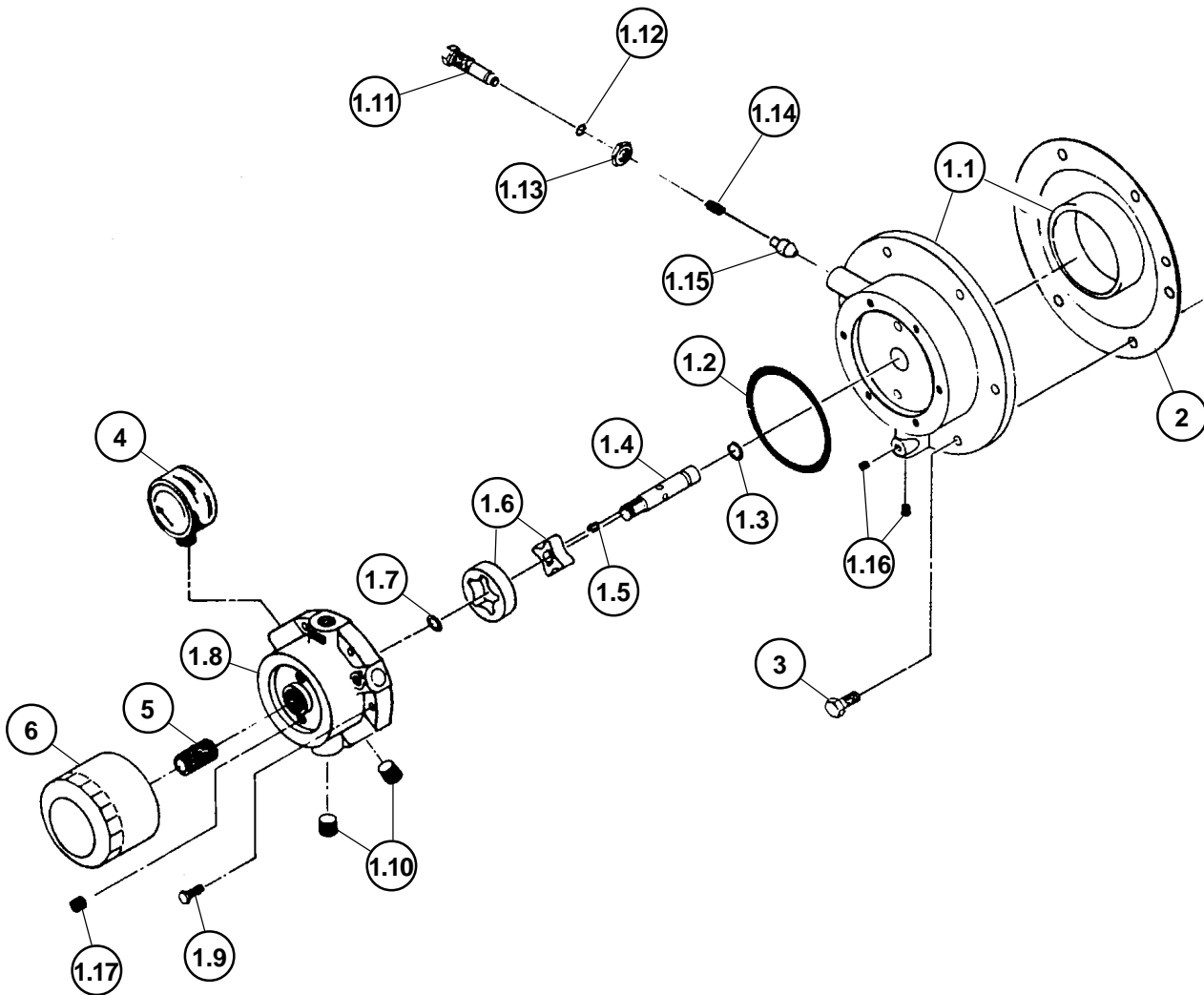
2.1	1	22749-111	"o"ring, 3/32 wide x .62 o.d.
8.2	1	6315-001	oil seal
12.2	1	22749-112	"o"ring, 3/32 wide x .69 o.d.
16	1	22749-116	"o"ring, 3/32 wide x .94 o.d.

\* Quantity as required

@ Indicates torque value (dry threads).

# BEARING CARRIER GROUP 110815-002

(with oil filter)





# BEARING CARRIER GROUP 110815-002

(with oil filter)

Item Number	Qty.	Part Number	Description
1	1	110809-003	bearing carrier assembly
1.1	1	110809	bearing carrier
	1	4018	includes: bearing cup
	2	160005	bushing
* 1.2	1	123157-152	"o"ring, 3/32 wide x 3.44 o.d.
* 1.3	1	123157-112	"o"ring, 3/32 wide x .69 o.d.
1.4	1	160002-002	driveshaft
1.5	1	160075-001	driveshaft key
1.6	1	160003	pump gerotor
1.7	1	6285	retaining ring
1.8	1	110813-001	oil pump housing
1.9	6	123777-J12	hex. screw, 1/4-20 unc x 1.00, grade 5 ( 6 ft.-lbs.)
1.10	2	2719	pipe plug, 1/4 npt, hex socket
1.11	1	5489	adjustment screw
* 1.12	1	123157-011	"o"ring, 1/16 wide x .44 o.d.
1.13	1	124369-P02	jamnut, 9/16-18 unf
1.14	1	1160	spring
1.15	1	112857	needle valve
1.16	2	6565	hole plug
1.17	1	2755S	pipe plug, 1/8 npt
2	1	6274	gasket, bearing carrier
3	6	123478-L12	hex. screw, 3/8-16 unc x 1.00, grade 5 (@ 30 ft.-lbs.)
4	1	110822	oil pressure gauge
5	1	110825	stud
<b>Maintenance Parts</b>			
* 6	1	110814-001	6 pack of oil filters
		<b>160078</b>	<b>Oil Pump Repair Kit</b>
			includes "o"rings, driveshaft, key, pump gerotor & retaining ring
		<b>110809X003</b>	<b>Replacement Bearing Carrier Assembly</b>
			includes bearing carrier assembly, oil filter, stud & bearing carrier gasket

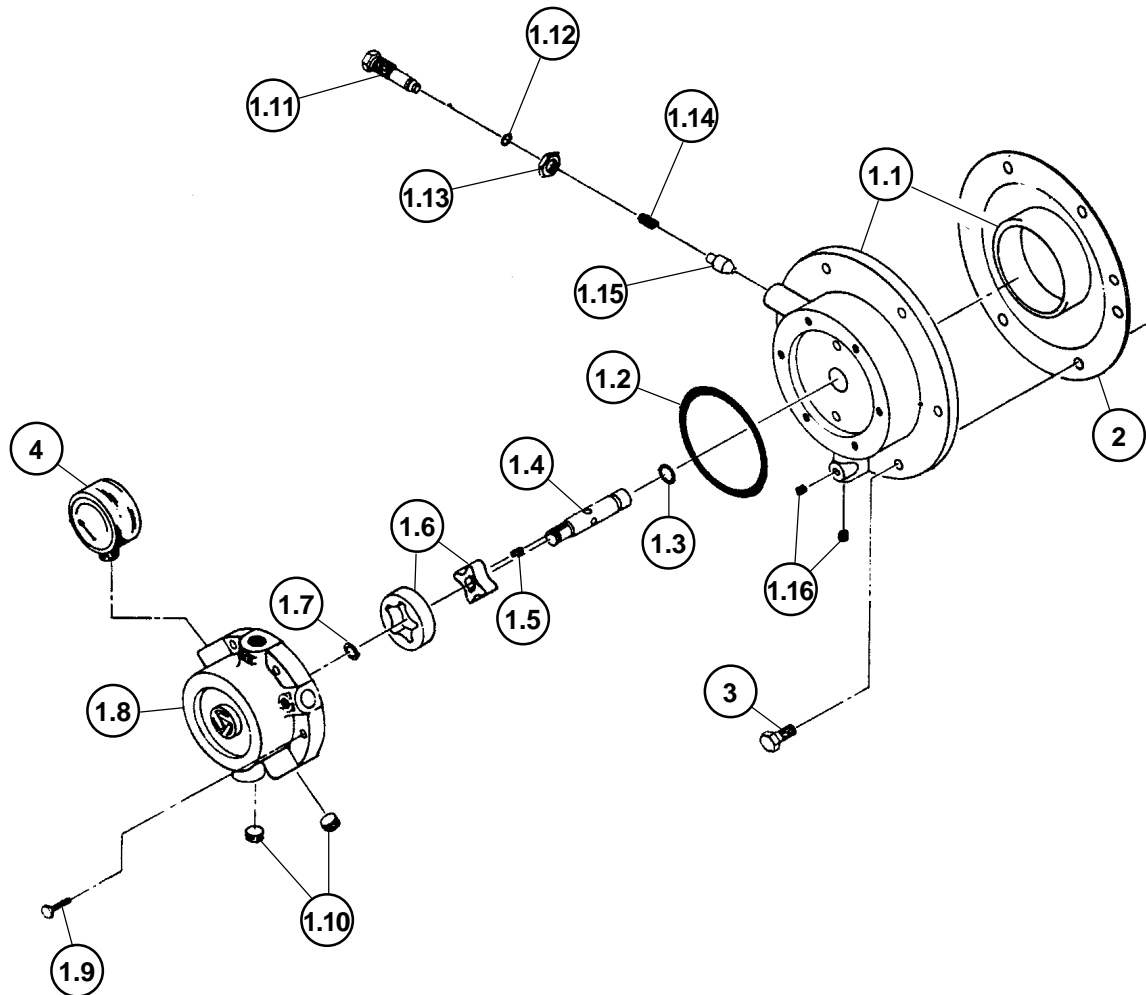
@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* Can not be used with diester or phosphate ester synthetic lubricants.

For reversal of compressor rotation refer to the QR-25 instruction manual.

# BEARING CARRIER GROUP 110815

(less oil filter)



# BEARING CARRIER GROUP 110815

(less oil filter)

Item Number	Qty.	Part Number	Description
1	1	110809-002	bearing carrier assembly
1.1	1	110809	bearing carrier
	1	4018	includes: bearing cup
	2	160005	bushing
* 1.2	1	123157-152	"o"ring, 3/32 wide x 3.44 o.d.
* 1.3	1	123157-112	"o"ring, 3/32 wide x .69 o.d.
1.4	1	160002-002	driveshaft
1.5	1	160075-001	driveshaft key
1.6	1	160003	pump gerotor
1.7	1	6285	retaining ring
1.8	1	110813	housing
1.9	6	123777-J12	hex. screw, 1/4-20 unc x 1.00, grade 5 (@ 6 ft.-lbs.)
1.10	2	2719	pipe plug, 1/4 npt, hex socket
1.11	1	5489	adjustment screw
* 1.12	1	123157-011	"o"ring, 1/16 wide x .44 o.d.
1.13	1	124369-P02	jamnut, 9/16-18 unf
1.14	1	1160	spring
1.15	1	112857	needle valve
1.16	2	6565	hole plug
2	1	6274	gasket, bearing carrier
3	6	123478-L12	hex. screw, 3/8-16 unc x 1.00, grade 5 (@ 30 ft.-lbs.)
4	1	110822	oil pressure gauge

## Maintenance Parts

### 160078

#### Oil Pump Repair Kit

includes "o"rings, driveshaft, key, pump gerotor & retaining ring

### 110809X002

#### Replacement Bearing Carrier Assembly

includes bearing carrier assembly & bearing carrier gasket

## Parts for use with diester or phosphate ester synthetic based lubricants

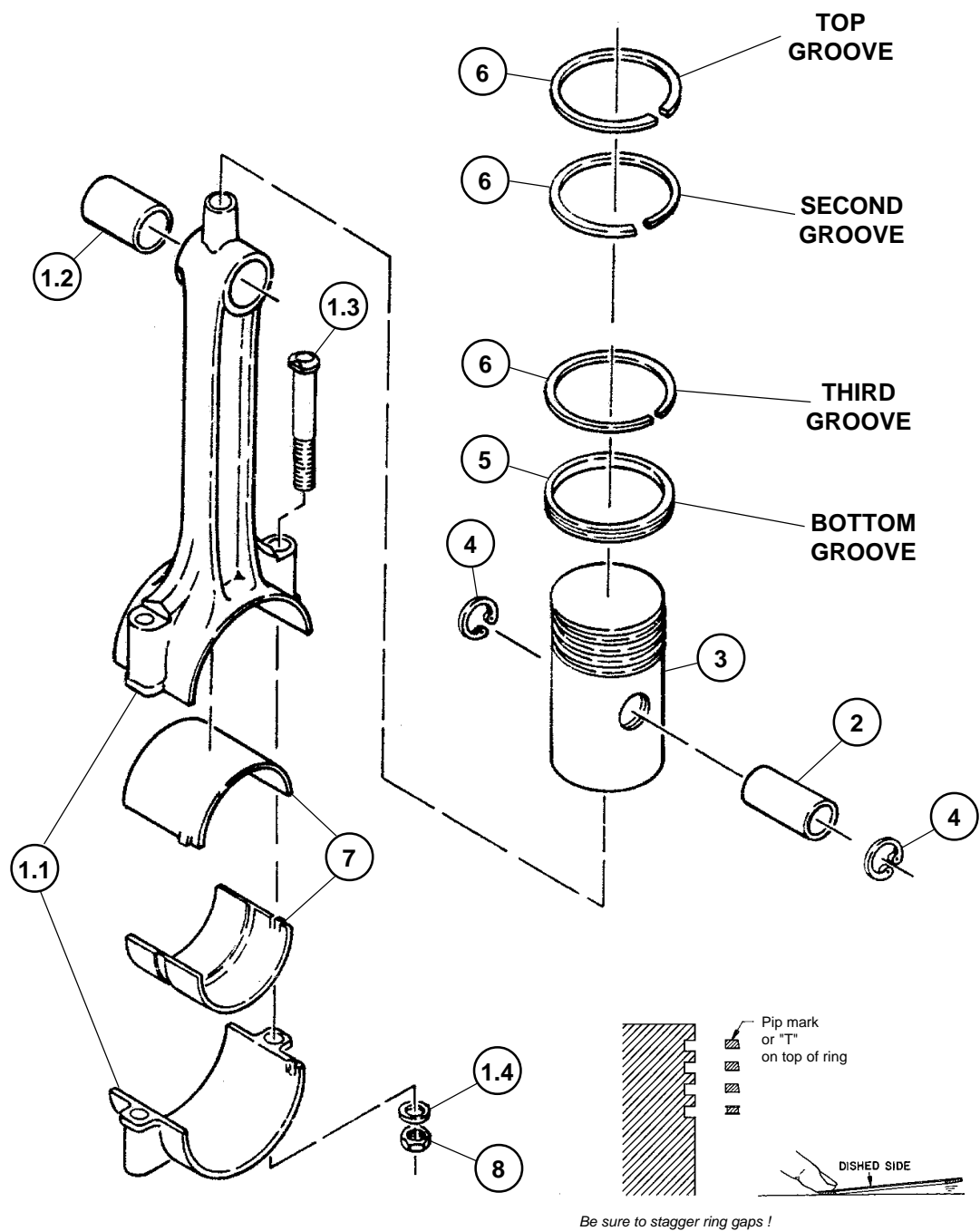
1.2	1	22749-152	"o"ring, 3/32 wide x 3.44 o.d.
1.3	1	22749-112	"o"ring, 3/32 wide x .69 o.d.
1.12	1	22749-011	"o"ring, 1/16 wide x .44 o.d.
		<b>160078-001</b>	<b>Oil Pump Repair Kit</b>
			includes "o"rings, driveshaft, key, pump gerotor & retaining ring

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* Can not be used with diester or phosphate ester synthetic lubricants..

# CONNECTING ROD & PISTON GROUP 110439

(high pressure)



# CONNECTING ROD & PISTON GROUP 1 10439

(high pressure)

Item Number	Qty.	Part Number	Description
1	1	110703X001	connecting rod assembly (N.S.S.; order 110703X101)
1.1	1	110703-001	connecting rod (N.S.S.; order 110703X101)
1.2	1	6440	connecting rod bushing (can not be purchased; order 6440SR)
1.3	2	3532	connecting rod bolt, 5/16-24 unf
1.4	2	111260-002	connecting rod washer
2	1	110190-011	piston pin
3	1	1910-001	piston
4	2	8648	retaining ring
5	1	1939	oil ring
6	3	1938	compression ring
7	2	2824	insert, con rod bearing (N.S.S.; order 2824PR)
8	2	124471-K08	locknut, 5/16-24 unf (@ 19 ft.-lbs.)
<b>Maintenance Parts</b>			
* 7	1	2824PR	inserts (pair), con rod bearing,(standard)
* 7	1	2824-010PR	inserts (pair), con rod bearing, (.010 oversize)
1.2	1	6440SR	bushing
3	1	1910-011	piston, (.010 oversize)
3	1	1910-021	piston, (.020 oversize)
	1	<b>8165</b>	<b>Side Sealer Ring Set, H.P. (standard)</b>
			includes piston rings, springs, compression ring & oil ring
		<b>4452-010</b>	<b>Piston Ring Set (.010 oversize) (light blue)</b>
			includes compression rings & oil ring
		<b>4452-020</b>	<b>Piston Ring Set (.020 oversize) (yellow)</b>
			includes compression rings & oil ring
		<b>1910X001</b>	<b>Replacement Piston Assembly, (standard)</b>
			includes high pressure piston, piston pin, retaining rings & side sealer ring set
		<b>1910X011</b>	<b>Replacement Piston Assembly, (.010 oversize)</b>
			includes high pressure piston, piston pin, retaining rings & ring set
		<b>1910X021</b>	<b>Replacement Piston Assembly, (.020 oversize)</b>
			includes high pressure piston, piston pin, retaining rings & ring set
		<b>110703X101</b>	<b>Replacement Connecting Rod Assembly</b>
			includes connecting rod assembly, bearing inserts & locknuts

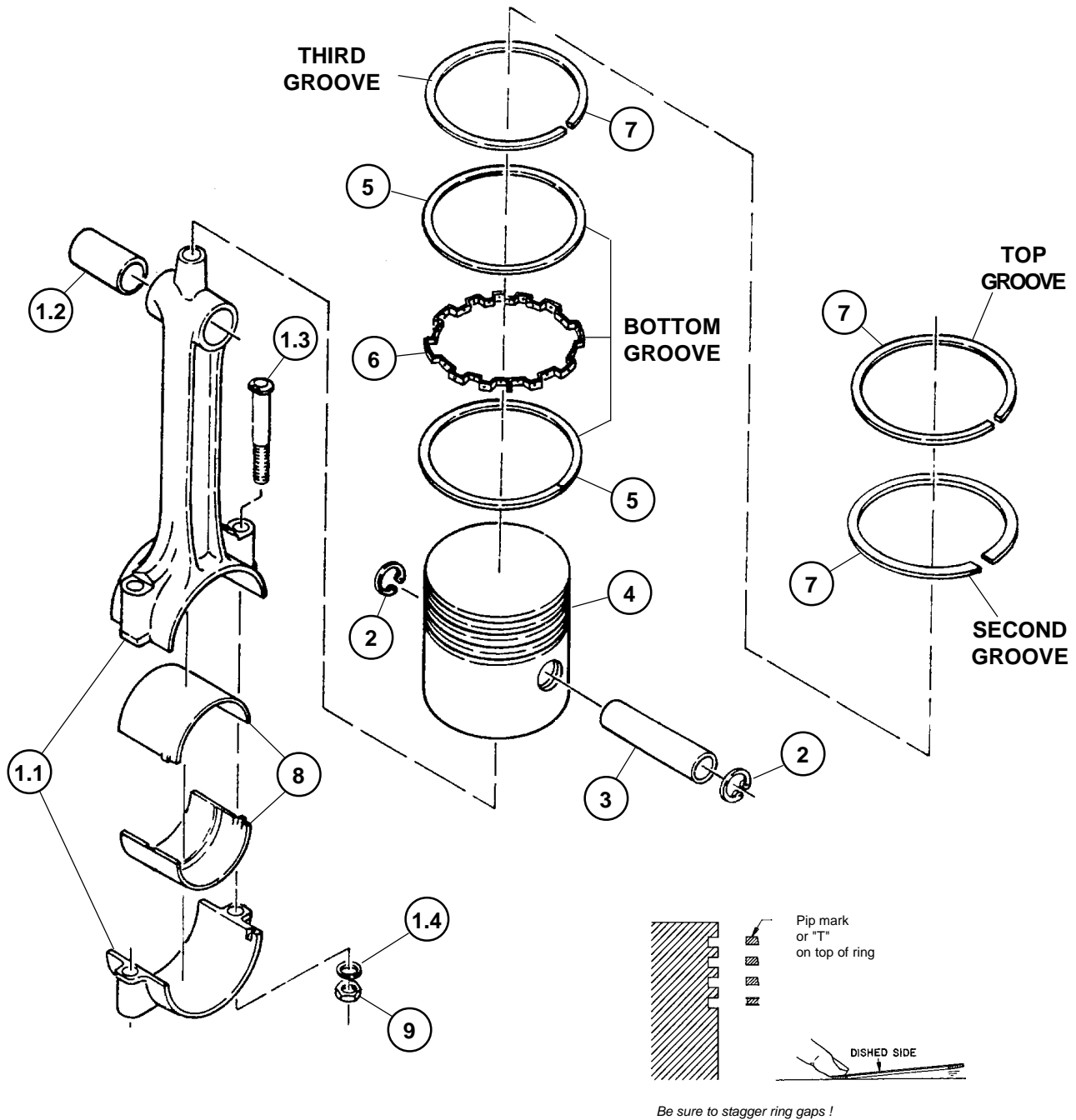
N.S.S. = Not Sold Separate

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* One pair required for each connecting rod assembly.

# CONNECTING ROD & PISTON GROUP 110440

(low pressure)



# CONNECTING ROD & PISTON GROUP 110440

(low pressure)

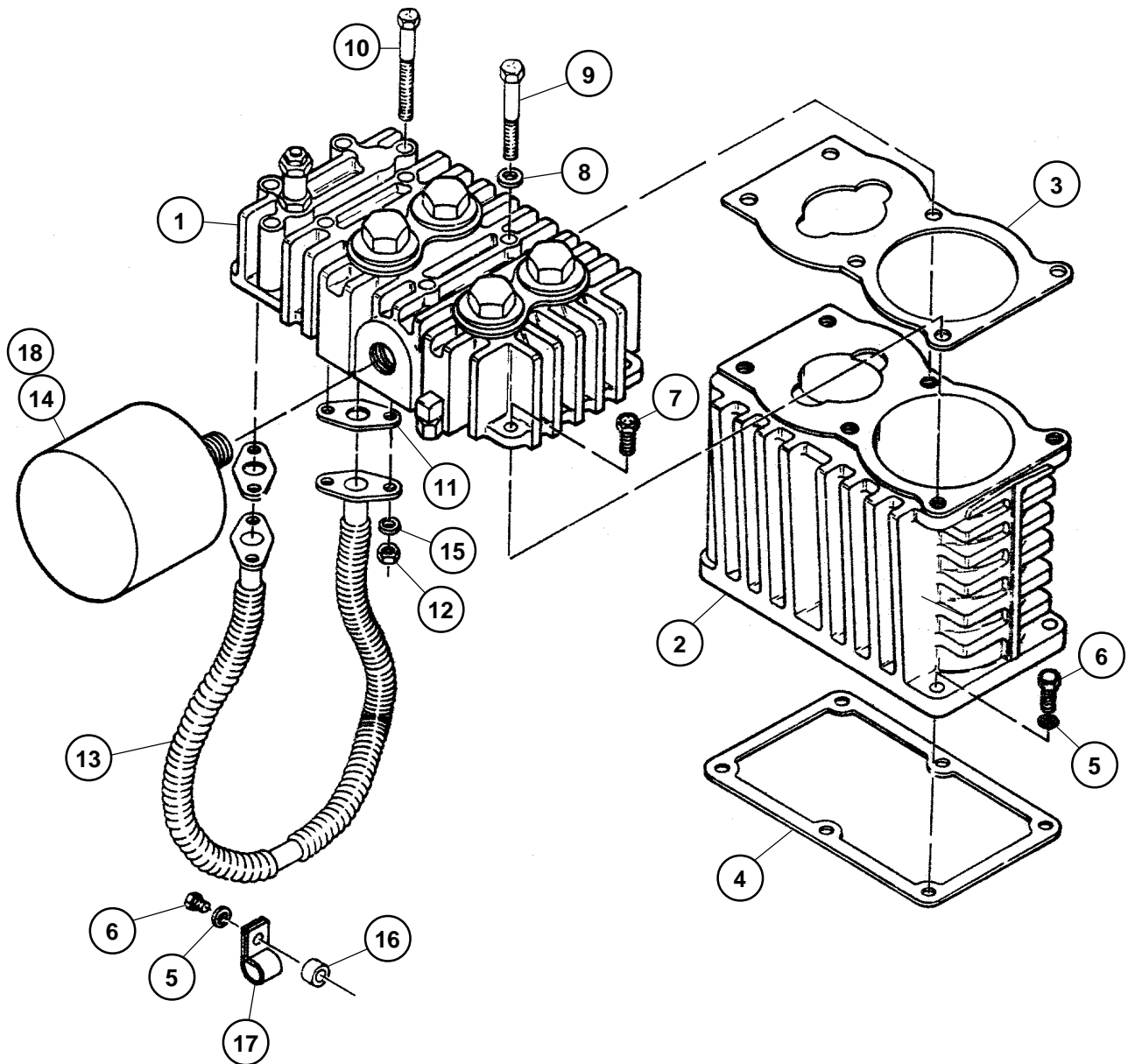
Item Number	Qty.	Part Number	Description
1	1	110703X	connecting rod assembly (N.S.S.; order 110703X1)
1.1	1	110703	connecting rod (N.S.S.; order 110703X1)
1.2	1	6440	connecting rod bushing (can not be purchased; order 6440SR)
1.3	2	3532	connecting rod bolt, 5/16-24 unf
1.4	2	111260-002	connecting rod washer
2	2	8648	retaining ring
3	1	110190-007	piston pin
4	1	1276-001	piston
5	2	6597	rail
6	1	6596	expander
7	3	1650	piston ring
8	2	2824	insert, con rod bearing (N.S.S.; order 2824PR)
9	2	124471-K08	locknut, 5/16-24 unf (@19 ft.-lbs.)
<b>Maintenance Parts</b>			
* 8	1	2824PR	inserts (pair), con rod bearing,(standard)
* 8	1	2824-010PR	inserts (pair), con rod bearing, (.010 oversize)
1.2	1	6440SR	bushing
4	1	1276-011	piston (.010 oversize)
4	1	1276-021	piston (.020 oversize)
	1	<b>6592</b>	<b>Side Sealer Ring Set, (standard)</b>
			includes piston rings, springs, rails & expander
		<b>4428-010</b>	<b>Piston Ring Set (.010 oversize) (light blue)</b>
			includes compression rings & oil ring
		<b>4428-020</b>	<b>Piston Ring Set (.020 oversize) (yellow)</b>
			includes compression rings & oil ring
		<b>1276X001</b>	<b>Replacement Piston Assembly, (standard)</b>
			includes low pressure piston, piston pin, retaining rings & side sealer ring set
		<b>1276X011</b>	<b>Replacement Piston Assembly, (.010 oversize)</b>
			includes low pressure piston, piston pin, retaining rings & ring set
		<b>1276X021</b>	<b>Replacement Piston Assembly, (.020 oversize)</b>
			includes low pressure piston, piston pin, retaining rings & ring set
		<b>110703X1</b>	<b>Replacement Connecting Rod Assembly</b>
			includes connecting rod assembly, bearing inserts & locknuts

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* One pair required for each connecting rod assembly.

# CYLINDER & HEAD GROUP 110442-001

(control version P)





# CYLINDER & HEAD GROUP 110442-001

(control version P)

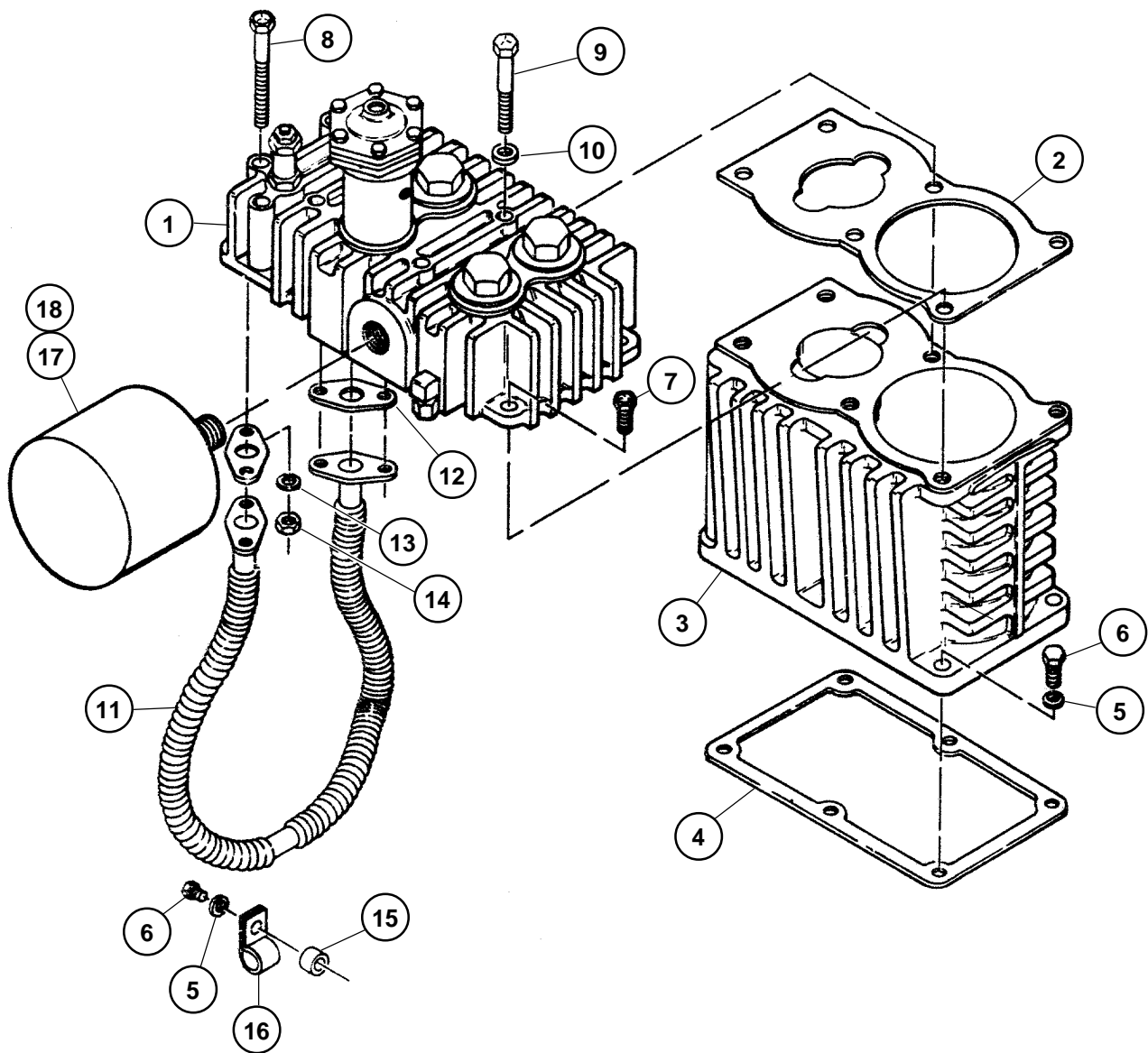
Item Number	Qty.	Part Number	Description
* 1	1	1907P	head assembly (see page 22 for parts breakdown)
2	1	1909	cylinder
3	1	5698	gasket, cylinder to head
4	1	1594	gasket, cylinder to crankcase
5	7	123115-06C	lockwasher, 3/8
6	7	123478-L14	hex. screw, 3/8-16 unc x 1.25, grade 5 (@ 30 ft.-lbs.)
7	2	123478-L12	hex. screw, 3/8-16 unc x 1.00, grade 5 (@ 30 ft.-lbs.)
8	4	1836	washer
9	4	1936	hex. screw, 3/8-16 unc x 3.00, grade 5 (@ 30 ft.-lbs.)
10	4	123478-K23	hex. screw, 5/16-18 unc x 3.50, grade 5 (@ 17 ft.-lbs.)
11	2	5697	gasket, intercooler to head
12	4	124364-K02	hex. nut, 5/16 -18
13	1	1940	intercooler
14	1	110377F075	air filter
or			
14	1	110377H075	hooded air filter
or			
14	1	110377S075	hooded air filter/silencer
15	1	123115-05C	lockwasher, 5/16
16	1	110613	spacer
17	1	6292-001	intercooler clamp
<b>Maintenance Parts</b>			
18	1	110377E075	air filter element
		<b>1907X23P</b>	<b>Replacement Head Assembly</b>
			includes head assembly & gaskets (cylinder to head & intercooler to head)

\*High pressure compressors and DNV certified applications require 1907HPS head in lieu of 1907 head and 1909HPS cylinder in lieu of 1909 cylinder. See page 22 for parts breakdown.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# CYLINDER & HEAD GROUP 110443-001

(control version L)



# CYLINDER & HEAD GROUP 110443-001

(control version L)

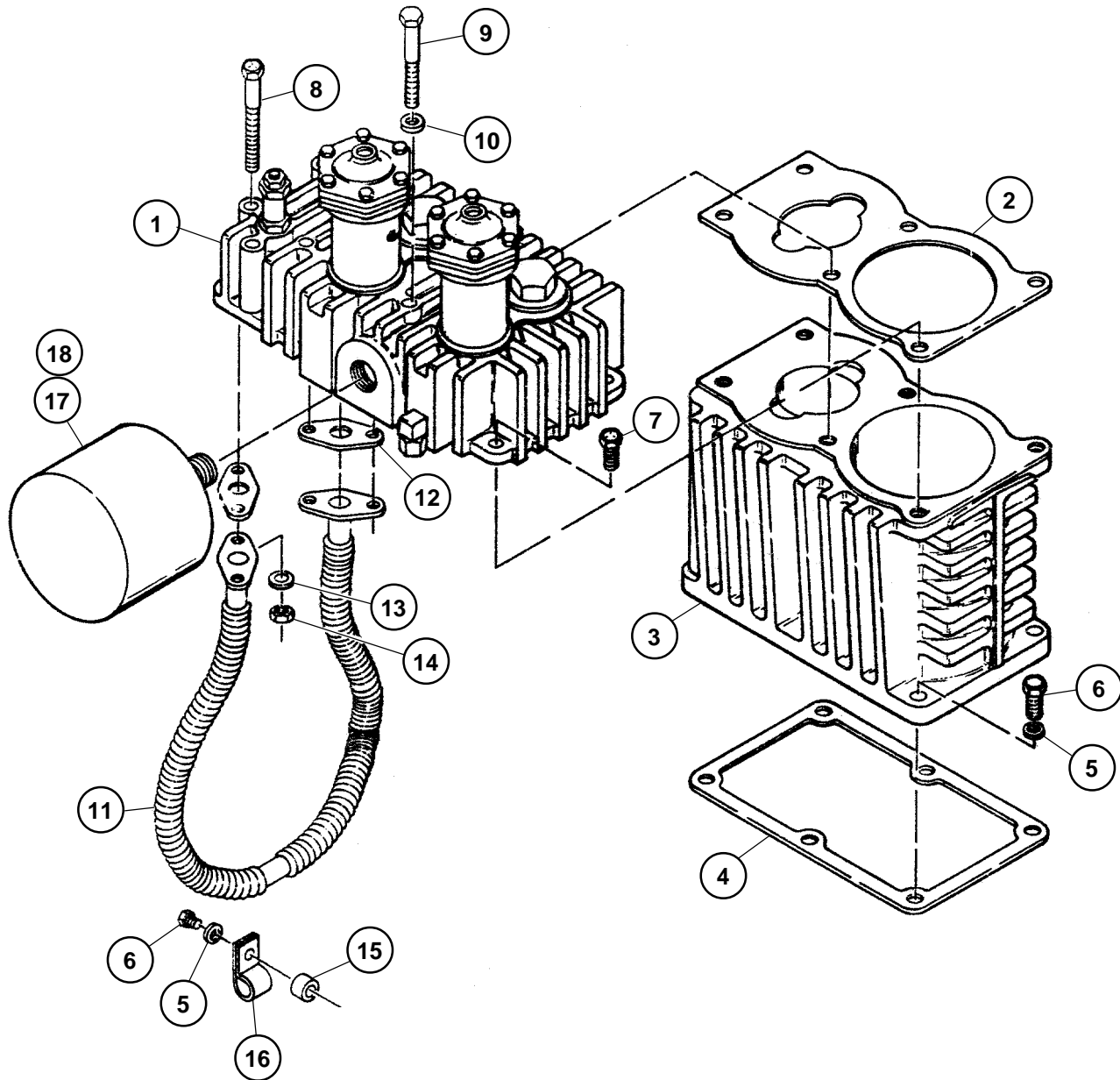
Item Number	Qty.	Part Number	Description
* 1	1	1907U	head assembly (see page 24 for parts breakdown)
2	1	5698	gasket, cylinder to head
3	1	1909	cylinder, compressor
4	1	1594	gasket
5	7	123115-06C	lockwasher, 3/8
6	7	123478-L14	hex. screw, 3/8-16 unc x 1.25, grade 5 (@ 30 ft.-lbs.)
7	2	123478-L12	hex. screw, 3/8-16 unc x 1.00, grade 5 (@ 30 ft.-lbs.)
8	4	123478-K23	hex. screw, 5/16-18 unc x 3.50, grade 5 (@ 17 ft.-lbs.)
9	4	1936	hex. screw, 3/8-16 unc x 3.00, grade 5 (@ 30 ft.-lbs.)
10	4	1836	washer
11	1	1940	intercooler
12	2	5697	gasket, intercooler to head
13	4	123115-05C	lockwasher, 5/16
14	4	124364-K02	hex. nut, 5/16 -18
15	1	110613-001	spacer
16	1	6292-001	intercooler clamp
17	1	110377F075	air filter
or			
17	1	110377H075	hooded air filter
or			
17	1	110377S075	hooded air filter/silencer
<b>Maintenance Parts</b>			
18	1	110377E075	air filter element
		<b>1907X23L</b>	<b>Replacement Head Assembly</b>
			includes head assembly, copper tube, tube fitting & gaskets (cyl. to head & intercooler to head)

\*High pressure compressors and DNV certified applications require 1907HPS head in lieu of 1907 head and 1909HPS cylinder in lieu of 1909 cylinder. See page 24 for parts breakdown.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# CYLINDER & HEAD GROUP 110444-001

(control versions S, LS, & LVD)



# CYLINDER & HEAD GROUP 110444-001

(control versions S, LS, & LVD)

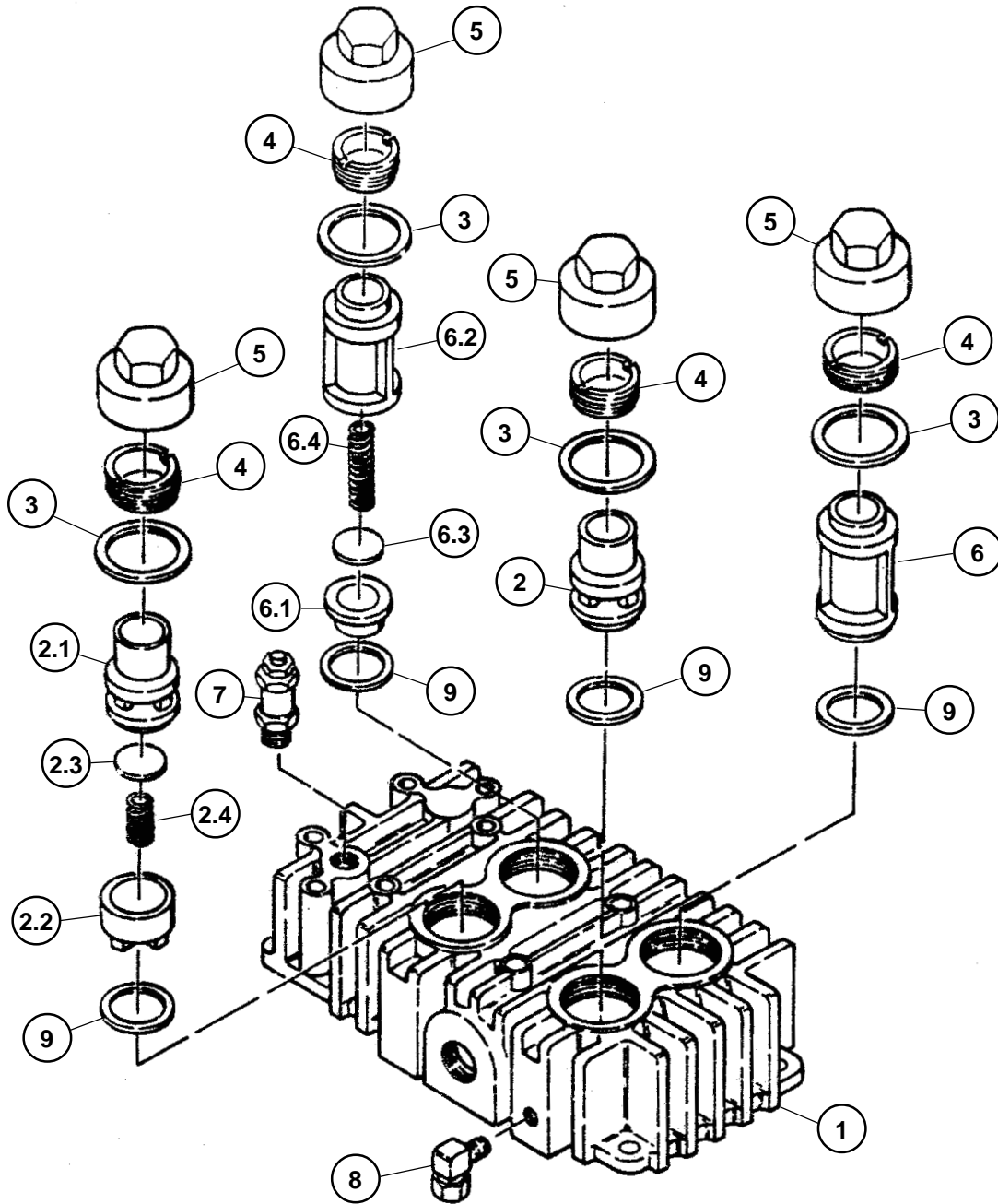
Item Number	Qty.	Part Number	Description
* 1	1	1907UU	head assembly (see page 26 for parts breakdown)
2	1	5698	gasket, cylinder to head
3	1	1909	cylinder
4	1	1594	gasket
5	7	123115-06C	lockwasher, 3/8
6	7	123478-L14	hex. screw, 3/8-16 unc x 1.25, grade 5 (@ 30 ft.-lbs.)
7	2	123478-L12	hex. screw, 3/8-16 unc x 1.00, grade 5 (@ 30 ft.-lbs.)
8	4	123478-K23	hex. screw, 5/16-18 unc x 3.50, grade 5 (@ 17 ft.-lbs.)
9	4	1936	hex. screw, 3/8-16 unc x 3.00, grade 5 (@ 30 ft.-lbs.)
10	4	1836	washer
11	1	1940	intercooler
12	2	5697	gasket, intercooler to head
13	4	123115-05C	lockwasher, 5/16
14	4	124364-K02	hex. nut, 5/16 -18
15	1	110613-001	spacer
16	1	6292-001	intercooler clamp
17	1	110377F075	air filter
or			
17	1	110377H075	hooded air filter
or			
17	1	110377S075	hooded air filter/silencer
<b>Maintenance Parts</b>			
18	1	110377E075	air filter element
		<b>1907X23S</b>	<b>Replacement Head Assembly</b>
			includes head assembly, copper tube & fittings, & gaskets (intercooler to head & cyl. to head)

\*High pressure compressors and DNV certified applications require 1907HPS head in lieu of 1907 head and 1909HPS cylinder in lieu of 1909 cylinder. See page 26 for parts breakdown.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# HEAD ASSEMBLY 1907P

(control version P)



# HEAD ASSEMBLY 1907P

(control version P)

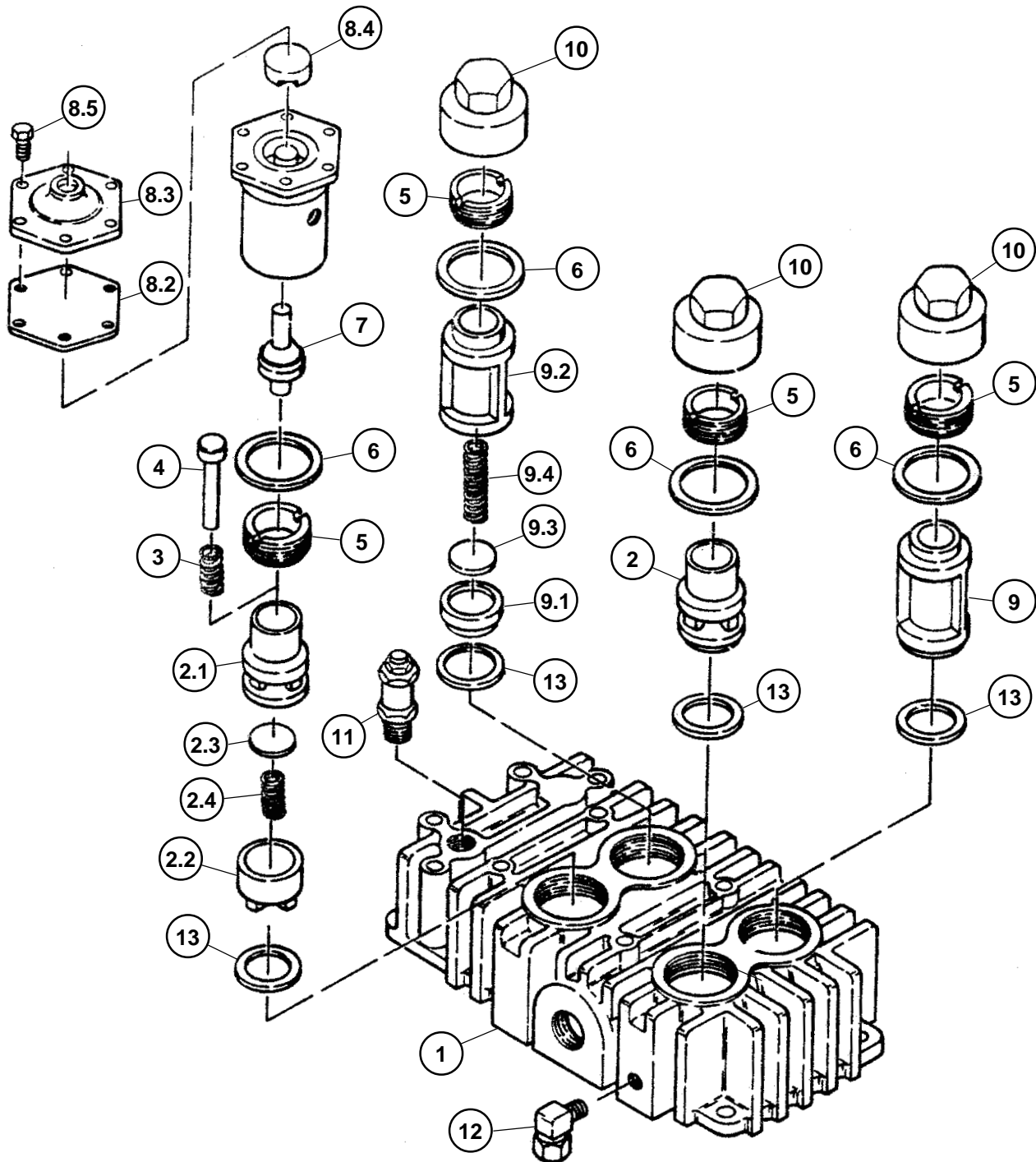
Item Number	Qty.	Part Number	Description
* 1	1	1907	head
2	2	4610X1	suction valve assembly
2.1	1	4610	valve seat
2.2	1	1549	valve bumper
2.3	1	1552-001	valve disc
2.4	1	1202	valve spring
3	4	1556	valve gasket
4	4	3008	holddown screw/ (@ 60 ft.-lbs.)
5	4	1555	cap
6	2	1553X3	discharge valve assembly
6.1	1	1553	valve seat
6.2	1	3010	valve bumper
6.3	1	1552-001	valve disc
6.4	1	1368	valve spring
7	1	2961-100	pressure relief valve
8	1	2709	elbow compression fitting, 5/16 tube x 1/8 npt, 90°
9	4	1554	gasket
<b>Maintenance Parts</b>			
		<b>4610X</b>	<b>Replacement Suction Valve Assembly</b> includes suction valve assembly & gasket
		<b>1553X1</b>	<b>Replacement Discharge Valve Assembly</b> includes discharge valve assembly & gasket

\*High pressure compressors and DNV certified applications require 1907HPS head in lieu of 1907 head.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# HEAD ASSEMBLY 1907U

(control version L)





# HEAD ASSEMBLY 1907U

(control version L)

Item Number	Qty.	Part Number	Description
* 1	1	1907	head
2	2	4610X1	suction valve assembly
2.1	1	4610	valveseat
2.2	1	1549	valve bumper
2.3	1	1552-001	valve disc
2.4	1	1202	valve spring
3	1	6945	plunger spring
4	1	6937	unloader plunger
5	4	3008	holddown screw/ (@ 60 ft.-lbs.)
6	4	1556	gasket, valve
7	1	7532X	unloader piston assembly
8	1	40055	unloader assembly (@ 75 ft.-lbs.) (N.S.S.; order 7483X)
8.1	1	7483	unloader body
8.2	1	1855	diaphragm
8.3	1	1818B	diaphragm cover plate
8.4	1	5910	diaphragm disc
8.5	6	7499	hex. screw, 1/4-20 unc x .75, grade 2 (@ 72 in.-lbs.)
9	2	1553X3	discharge valve assembly
9.1	1	1553	valve seat
9.2	1	3010	valve bumper
9.3	1	1552-001	valve disc
9.4	1	1368	valve spring
10	3	1555	valv cover cap
11	1	2961-100	pressure relief valve
12	1	2709	elbow compression fitting, 5/16 tube x 1/8 npt, 90°
13	4	1554	gasket, valve

## Maintenance Parts

### 4610X

#### Replacement Suction Valve Assembly

includes suction valve assembly & valve gasket

### 1553X1

#### Replacement Discharge Valve Assembly

includes discharge valve assembly & valve gasket

### 7483X

#### Replacement Unloader Assembly

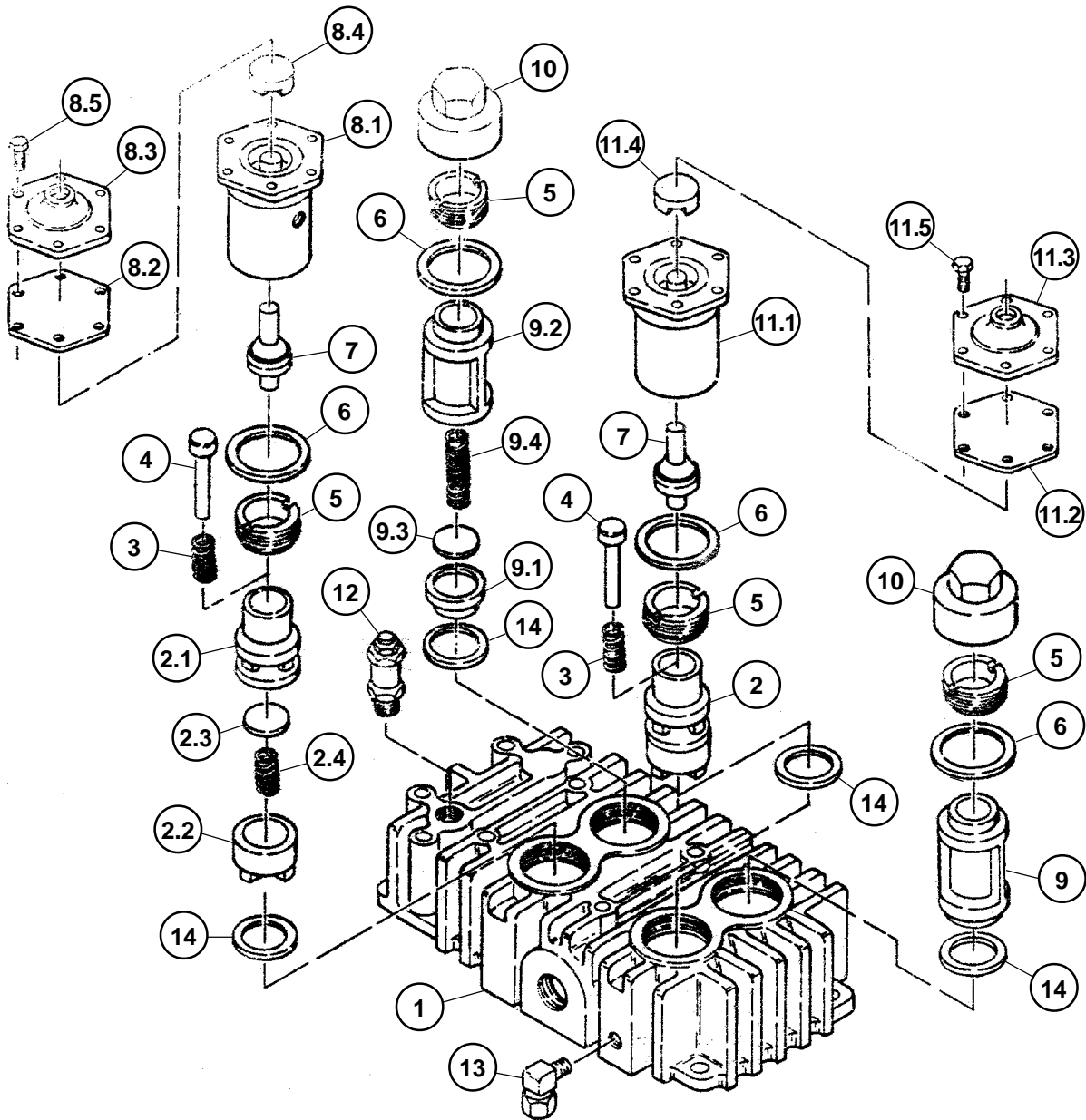
includes unloader assembly, unloader piston assembly, valve gasket & pipe plug

\*High pressure compressors and DNV certified applications require 1907HPS head in lieu of 1907 head.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# HEAD ASSEMBLY 1907UU

(control versions S, LS, LVD)



# HEAD ASSEMBLY 1907UU

(control versions S, LS, LVD)

Item Number	Qty.	Part Number	Description
1	1	1907	head
2	2	4610X1	suction valve assembly
2.1	1	4610	valve seat
2.2	1	1549	valve bumper
2.3	1	1552-001	valve disc
2.4	1	1202	valve spring
3	2	6945	plunger spring
4	2	6937	unloader plunger
5	4	3008	holddown screw/ (@ 60 ft.-lbs.)
6	4	1556	gasket, valve
7	2	7532X	unloader piston assembly
8	1	40055	unloader assembly (@ 75 ft.-lbs.) (N.S.S.; order 7483X)
8.1	1	7483	unloader body
8.2	1	1855	diaphragm
8.3	1	1818B	diaphragm cover plate
8.4	1	5910	diaphragm disc
8.5	6	7499	hex. screw, 1/4-20 unc x .75, grade 2 (@ 72 in.-lbs.)
9	2	1553X3	discharge valve assembly
9.1	1	1553	valve seat
9.2	1	3010	valve bumper
9.3	1	1552-001	valve disc
9.4	1	1368	valve spring
10	2	1555	valve cover cap
11	1	40192	unloader assembly (@ 75 ft.-lbs.), (N.S.S.; order 8272X)
11.1	1	8272	unloader body
11.2	1	1855	diaphragm
11.3	1	1818B	diaphragm cover plate
11.4	1	5910	diaphragm disc
11.5	6	7499	hex. screw, 1/4-20 unc x .75, grade 2 (@ 72 in.-lbs.)
12	1	2961-100	pressure relief valve
13	1	2709	elbow compression fitting, 5/16 tube x 1/8 npt, 90°
14	4	1554	gasket, valve

## Maintenance Parts

### 4610X

#### Replacement Suction Valve Assembly

includes suction valve assembly & valve gasket

### 1553X1

#### Replacement Discharge Valve Assembly

includes discharge valve assembly & valve gasket

### 7483X

#### Replacement Unloader Assembly

includes unloader assembly, unloader piston assembly, valve gasket & pipe plug

### 8272X

#### Replacement Unloader Assembly

includes unloader piston assembly, unloader assembly, & valve gasket

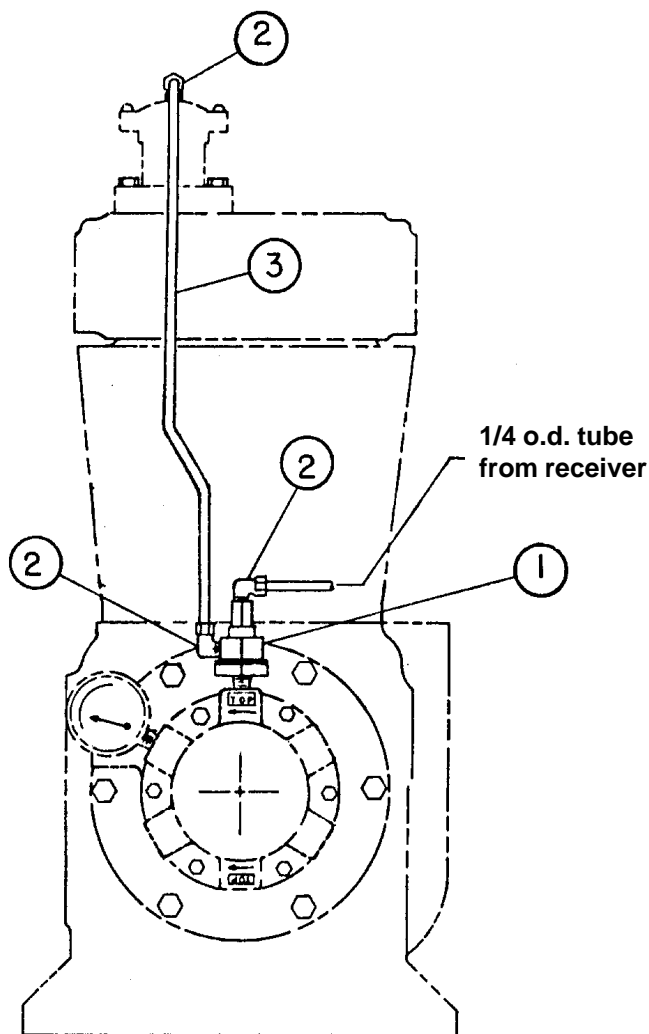
\*High pressure compressors require 1907HPS head in lieu of 1907 head.

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

# CONTROL GROUP 110855 & 110856

(control versions L)

Item Number	Qty.	Part Number	Part Number	Description
		<b>0-200 PSI</b>	<b>201-500 PSI</b>	
1	1	110827-001	110827-002	hydraulic unloader assembly
2	3	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
3	4 ft.	110515-025	110515-025	copper tube, 1/4 o.d.

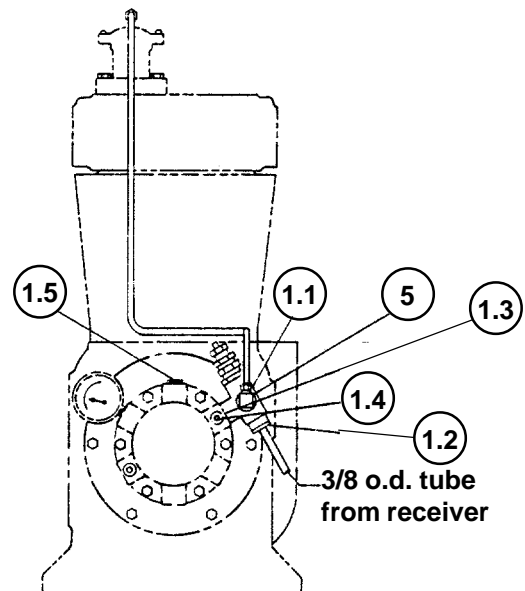
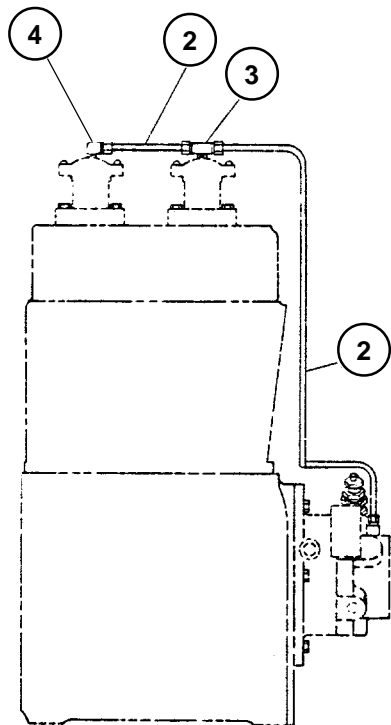


# CONTROL GROUP 110857 & 110857-001

(control version S)

Item Number	Qty.	Part Number	Part Number	Description
		<b>0-200 PSI</b>	<b>201-500 PSI</b>	
1	1	110844	110844-001	pilot valve assembly
* 1.1	1	110832-140	110832-000	pilot valve
1.2	1	2616	2616	tube fitting, straight male connector, 3/8 tube x 1/4 npt
1.3	1	6317	6317	mounting stud
1.4	4	160047-J05	160047-J05	set screw, 1/4-28 unf x .38, grade 5
1.5	1	2719	2719	pipe plug, 1/4 npt, hex socket
2	4 ft.	110515-025	110515-025	copper tube, 1/4 o.d.
3	1	1665	1665	tube fitting, male branch tee, 1/4 tube x 1/4 tube x 1/8 npt
4	1	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
5	1	2708	2708	tube fitting, 90° male elbow, 1/4 tube x 1/4 npt

\* See page 31 for optional pilot valves that must be used with respective pressure ranges.

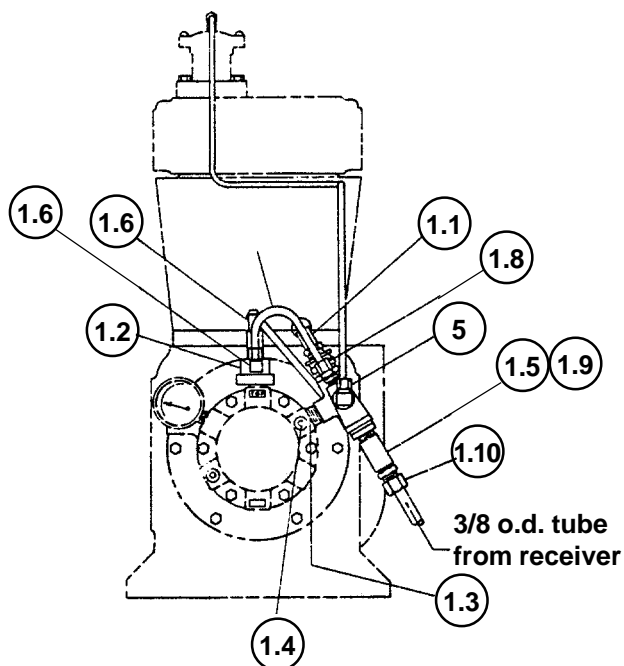
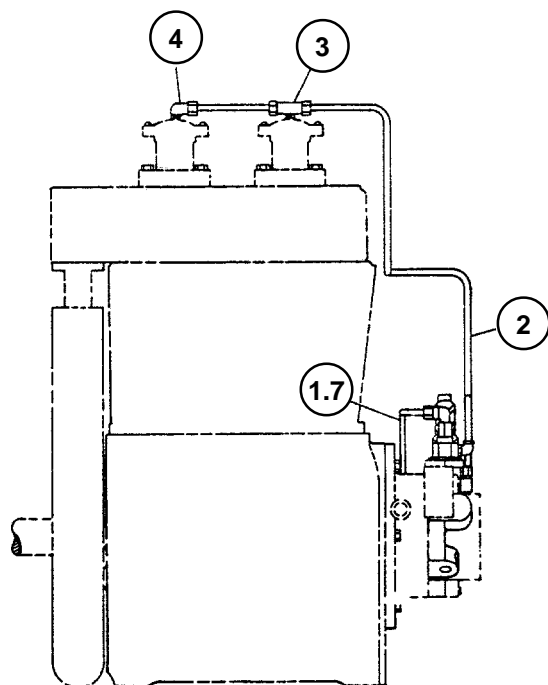


# CONTROL GROUP 110858 & 110858-001

(control version LS)

Item Number	Qty.	Part Number	Part Number	Description
		<b>0-200 PSI</b>	<b>201-500 PSI</b>	
1	1	110845	110845-001	pilot valve assembly
* 1.1	1	111422-175	111422-999	pilot valve
1.2	1	110827-001	110827-002	hydraulic unloader assembly
1.3	1	6317	6317	mounting stud
1.4	1	160047-J05	160047-J05	set screw, 1/4-28 unf x .38, grade 5
1.5	1	7361	7361	brass pipe tee, 1/4 npt x 1/4 npt x 1/4 npt
1.6	2	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
1.7	1 ft.	110515-025	110515-025	copper tube, 1/4 o.d.
1.8	1	1643	1643	tube fitting, straight male connector, 1/4 tube x 1/8 npt
1.9	1	2708	2708	tube fitting, 90° male elbow, 1/4 tube x 1/4 npt
1.10	1	2616	2616	tube fitting, straight male connector, 3/8 tube x 1/4 npt
2	4 ft.	110515-025	110515-025	copper tube, 1/4 o.d.
3	1	1665	1665	tube fitting, male branch tee, 1/4 tube x 1/4 tube x 1/8 npt
4	1	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
5	1	2708	2708	tube fitting, 90° male elbow, 1/4 tube x 1/4 npt
<b>Maintenance Parts</b>				
		<b>113225</b>	<b>113225</b>	<b>Hydraulic Unloader Repair Kit</b>
				includes diaphragm, stem assembly, inlet filter & fitting assembly, spring (0-200 PSI) and spring (201-500 PSI red color code)
<b>Parts for use with diester or phosphate ester synthetic based lubricants</b>				
1	1	110827-003		hydraulic unloader assembly (standard, 0-200 PSI)
1	1		110827-004	hydraulic unloader assembly (high pressure, 201-500 PSI)

\* See page 31 for optional pilot valves that must be used with respective pressure ranges.

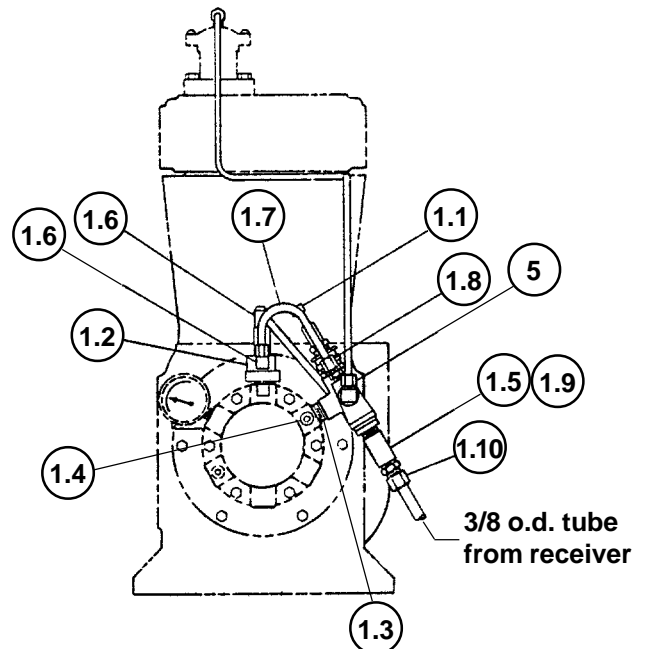
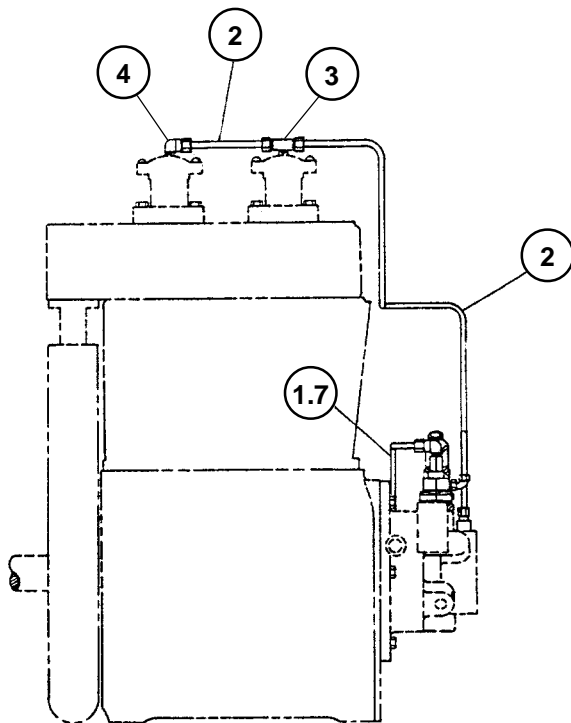


# CONTROL GROUP 110859 & 110859-001

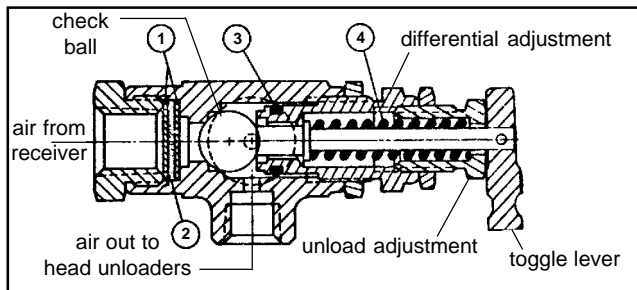
(control version LVD)

Item Number	Qty.	Part Number	Part Number	Description
		<b>0-200 PSI</b>	<b>201-500 PSI</b>	
1	1	110846	110846-001	pilot valve assembly
* 1.1	1	111423-140	111423-999	pilot valve
1.2	1	110827-001	110827-002	hydraulic unloader assembly
1.3	1	6317	6317	mounting stud
1.4	1	160047-J05	160047-J05	set screw, 1/4-28 unf x .38, grade 5
1.5	1	7361	7361	brass pipe tee, 1/4 npt x 1/4 npt x 1/4 npt
1.6	2	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
1.7	1 ft.	110515-025	110515-025	copper tube, 1/4 o.d.
1.8	1	1643	1643	tube fitting, straight male connector, 1/4 tube x 1/8 npt
1.9	1	2708	2708	tube fitting, 90° male elbow, 1/4 tube x 1/4 npt
1.10	1	2616	2616	tube fitting, straight male connector, 3/8 tube x 1/4 npt
2	4 ft.	110515-025	110515-025	copper tube, 1/4 o.d.
3	1	1665	1665	tube fitting, male branch tee, 1/4 tube x 1/4 tube x 1/8 npt
4	1	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
5	1	2708	2708	tube fitting, 90° male elbow, 1/4 tube x 1/4 npt

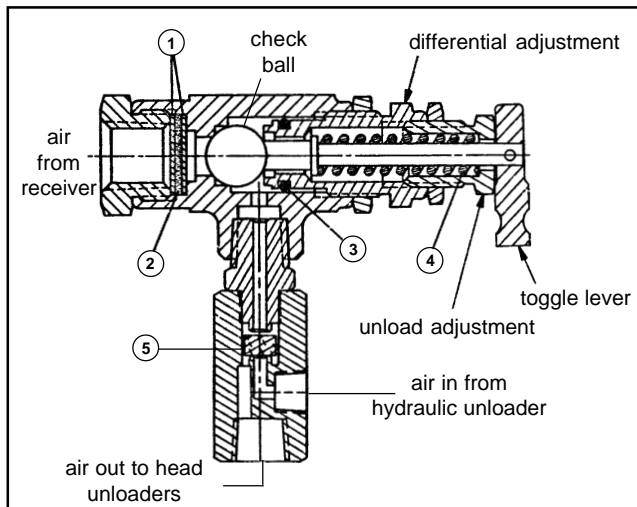
\* See page 31 for optional pilot valves that must be used with respective pressure ranges.



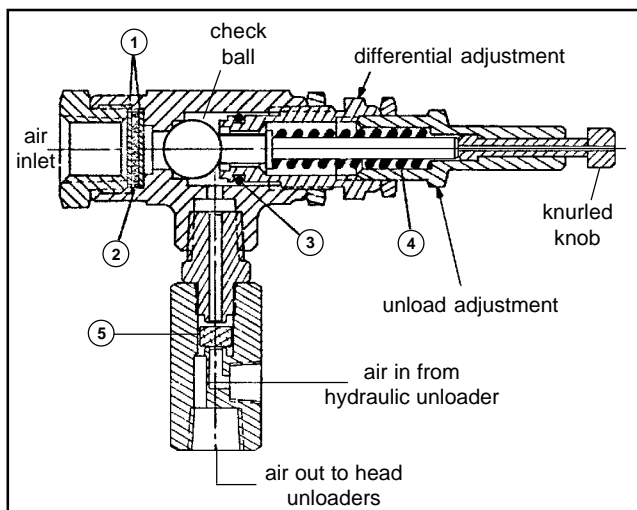
# PILOT VALVES



**110832 series pilot valve (control version S)**



**111422 series pilot valve (control version LS)**



**111423 series pilot valve (control version LVD)**

## WARNING !

Not all pilots are for use with all compressor systems. Make sure that the pilot you order is set within the safe operating limits of your compressor. Failure to heed this warning could result in an explosion.

## Available Pilot Valves

Refer to illustrations at left to determine pilot valve series; add dash # listed below per pressure setting.

Dash #	Pressure Setting (PSI)	Notes
-997	30-70	adjustable unload pressure / customer to set, see differential setting chart
-998	71-150	adjustable unload pressure / customer to set, see differential setting chart
-999	151-400	adjustable unload pressure / customer to set, see differential setting chart
-000	401-500	adjustable unload pressure / customer to set, see differential setting chart

*Additional factory preset valves are available upon request.*

## Pilot Valve Repair Kit 110832-051

Can be used to repair 110832, 111422 & 111423 series pilot valves. Customer must specify which spring when ordering pilot valve repair kit.

Item #	Qty.	Part Number	Description
1	2		screen
2	1		filter
3	1		"o"ring
4	1	110832-052	replacement spring, pilot valve, 30-70 PSI (red)
	1	110832-053	replacement spring, pilot valve, 71-150 PSI (yellow)
	1	110832-054	replacement spring, pilot valve, 151-400 PSI (green)
	1	110832-055	replacement spring, pilot valve, 401-500 PSI (black)
5	1	6196-003	disc

## Differential Setting Chart

Spring Part # (Item 4)	Unload (PSI)	Min. Dif. (PSI)	Max. Dif. (PSI)
110832-052	30	2	4
"	40	5	8
"	50	5	8
"	60	5	8
"	70	5	10
110832-053	80	5	10
"	90	5	12
"	100	5	13
"	110	5	15
"	120	5	15
"	130	5	18
"	140	5	18
"	150	5	20
110832-054	160	5	15
"	170	5	20
"	175	5	23
"	200	5	25
"	250	10	30
"	300	10	40
"	400	30	50
110832-055	500	40	75



# SUCTION VALVE UNLOADER ASSEMBLIES

## Description

The Quincy suction valve unloader assembly consists of unloading arrangements on the suction valves, having a plunger to contact the suction valve disc and an unloader pilot valve (part no.s 110832-\*\*\*, and 111422-\*\*\* & 111423-\*\*\* to automatically regulate the passing of receiver pressure to the unloading arrangement.

## Application

Suction valve unloader assemblies are recommended for use on Quincy compressors where the compressor is to run continuously and a constant pressure is to be maintained. The purpose is to automatically unseat the suction valve of the compressor when the air supply is greater than the demand.

## Operation

Unloading occurs when receiver pressure is sufficient to overcome pilot valve spring pressure. The check ball is then unseated, allowing receiver pressure to pass to the unloading arrangements. The compressor will run unloaded until the receiver pressure drops to a predetermined level. At this time, the action of the ball is reversed, shutting off receiver pressure to the unloader arrangement and venting the unloader to atmosphere. This allows the compressor to load. The drive, either electric motor or combustion engine, runs continuously and must be started and stopped manually.

Pilot valve 111423-\*\*\* can be locked out, for models equipped with dual control, to provide automatic start/stop operation. The knurled knob at the top of the pilot can be turned clockwise, until it stops, to lock it out. A pressure switch is required to stop the motor. Failure to use a pressure switch, with the pilot valve locked out, could result in unsafe conditions.

## WARNING !

A pressure switch must be incorporated whenever pilot valve 111423-\*\*\* is employed as part of the control system.

The compressor will operate in the continuous run mode if the knurled knob is turned counterclockwise until it stops.

## Installation

The pilot valve is to be connected to the air receiver using a minimum of 3/8" o.d. copper tube. Compressors in the field, not equipped with a suction valve

unloader assembly, can be converted to constant speed. Consult your local Quincy Compressor Distributor for assistance with conversion procedures.

## Service

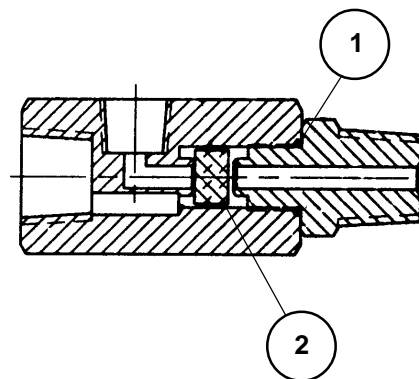
Periodically check the filter & screens in the inlet of the pilot valve to make sure they are free of obstructions. If they become clogged, remove and clean or replace. Inspect the "o"ring located in the opposite end of the pilot valve body for wear or damage; replace if necessary.

## Adjustment

The unloading pressure is adjustable and is regulated by turning the hex nut (marked "unload adj." in cross sectional illustrations of pilot valves). Turn the hex nut clockwise to increase and counterclockwise to decrease the unloading pressure.

The differential (difference between unloading and loading pressure) is set by turning the hex nut (marked "differential adj." in the cross sectional illustrations of the pilot valves). Increase the differential pressure by turning the hex nut clockwise - decrease by turning counterclockwise. Tighten the locknuts after adjustment.

# CHECK VALVE ASSEMBLIES



## Check Valve Assembly Replacement Parts

Item #	Qty.	Part Number	Description
		<b>6194X2</b>	<b>Check Valve Assembly</b>
1	1	123157-010	"o"ring
2	1	6196-002	disc
		<b>6194X3</b>	<b>Check Valve Assembly</b>
		(for use with diester or phosphate ester synthetic lubricants)	
1	1	22749-010	"o"ring
2	1	6196-003	disc

Head Kit K310A			
Item #	Qty.	Part Number	Description
	4	1552-001	valve disc
	2	1202	valve spring
	2	1368	valve spring
	4	1554	valve gasket
	4	1556	gasket, valve
	2	1855	diaphragm
	1	5698	gasket, cylinder to head
	1	110377E075	air filter element
	2	5697	gasket, intercooler to head

Overhaul Kit K310B			
Item #	Qty.	Part Number	Description
	2	2824PR	con-rod inserts (1 pair/standard)
	1	110525	ring set (standard)
	1	6592	ring set, side sealer, (standard)
	1	5512	gasket set
	2	1202	valve spring
	2	1368	valve spring
	1	110377E075	air filter element
	4	1552-001	valve disc
	1	110610	"o"ring kit

Pin Kit K310C (press fit)			
Item #	Qty.	Part Number	Description
	1	1937X	pin assembly
	1	1264	piston pin
	1	6445SR	bushing
	1	6440SR	bushing

Pin Kit K310D (float fit)			
Item #	Qty.	Part Number	Description
	1	110190-011	piston pin
	1	110190-007	piston pin
	1	6440SR	bushing
	1	6445SR	bushing
	2	8648	retaining ring

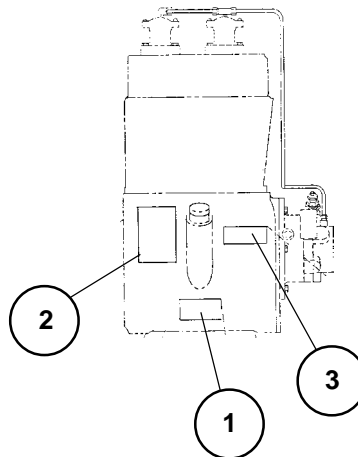
Basic Compressor Repair Kit 110823-310			
Item #	Qty.	Part Number	Description
	1	110190-007	pin, piston
	1	110190-011	piston pin
	1	110377E075	air filter element
	1	110773	"o"ring kit
	1	110814	oil filter
	2	1368	valve spring
	4	1552-001	valve disc
	1	2523	bearing cup
	1	2585	bearing cone
	2	2824PR	inserts (pair), con rod bearing
	1	4018	bearing cone
	1	4019	bearing cone
	1	5512	gasket set
	1	6440SR	bushing
	1	6445SR	bushing
	1	6592	side sealer ring set (standard)
	2	1202	valve spring
	1	110525	ring set (standard)

V.I.P. Kit 110516-310			
Item #	Qty.	Part Number	Description
	1	110822	oil pressure gauge
	2	1553X1	replacement discharge valve assy
	2	1855	diaphragm
	2	4610X	replacement suction valve assy
	1	5512	gasket set
	2	6283	hydraulic unloader filter

Gasket Set 5512			
Item #	Qty.	Part Number	Description
	4	1554	valve gasket
	4	1556	valve gasket
	1	1594	gasket
	1	1598	gasket, inspection plate
	2	1832	shim, bearing adj., .005, steel
	2	1832A	shim, bearing adj., .007, steel
	1	1832B	shim, bearing adj., .020, steel
	6	1832C	shim, bearing adj., .005, paper
	2	1832D	shim, bearing adj., .002 steel
	2	5697	gasket, intercooler to head
	1	5698	gasket, cylinder to head
	1	6274	gasket, bearing carrier
	1	6275	gasket, inlet screw
	1	6313	gasket, inlet screw

Recommended Spare Parts			
Item #	Qty.	Part Number	Description
	2	4610X	replacement suction valve assy.
	2	1553X1	replacement discharge valve assy.
	1	110822	oil pressure gauge
	1	160078	oil pump repair kit
	1	5512	gasket set
	1	113225	hydraulic unloader repair kit
	2	2824PR	connecting rod inserts (1 pair)
	2	1855	unloader diaphragm
	1	110832-051	pilot repair kit
	1	110377E100	air filter element

## DECALS



Decals for QR 310 Basic Compressor			
Item #	Qty.	Part Number	Description
1	1	110831	serial number & nameplate
2	1	127889-A	decals, CAUTION! / manual / "Failure to follow..."
3	1	127889-B	decals, DANGER! / "Air used for breathing..."
* Not sold separate; order 127889.			

# TYPICAL UNIT REPAIR PARTS LIST

The parts listed here are for standard QR 310 (up to 175 PSI) units and may or may not be applicable to custom built units. Check with your local authorized Quincy distributor for parts that can be used for custom built units. Make sure the components you order are rated within the safe operating limits of your system. If you are doubtful about which components to order, contact your local Quincy distributor.

## (QR 310 simplex - horizontal tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
	<b>60 gal.</b>	<b>80 gal.</b>		
1	113891-200	113268-200		tank (200 PSI max. working pressure)
1	n/a	n/a		* top plate
1	2713	2713		tank drain valve
1	111136-075	111136-075		ball valve
1	110514-300	110514-300		pressure gauge
1	110512-003	110512-003		** pressure switch (135-175 PSI)
1	110513-200	110513-200		pressure relief valve (200 PSI)
2.5 ft.	110515-050	110515-050		discharge tube (1/2" copper tube to be formed by customer)
2	110948-050	110948-050		compression fittings
	<b>2 h.p.</b>			
1	110258B057			drive belt
1	3597-78			motor pulley
	n/a			motor pulley bushing
1	110945K002			belt guard assembly
	<b>115/230v, 1Ø</b>	<b>200v, 3Ø</b>	<b>230/460v, 3Ø</b>	
1	4002	8097	124517-002	2 h.p. motor (ODP)

## (QR 310 duplex - horizontal tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
	<b>80 gal.</b>			
1	113471-200			tank (200 PSI max. working pressure)
2	n/a			* top plate
1	2713			tank drain valve
1	111136-075			ball valve
1	110514-300			pressure gauge
2	110512-003			** pressure switch (135-175 PSI)
1	110513-200			pressure relief valve (200 PSI)
5 ft.	110515-050			! discharge tube (1/2" copper tube to be formed by customer)
4	110948-050			compression fittings
	<b>2 h.p.</b>			
2	110258B057			drive belt
2	3597-78			motor pulley
	n/a			motor pulley bushing
2	110945K002			belt guard assembly
	<b>115/230v, 1Ø</b>	<b>200v, 3Ø</b>	<b>230/460v, 3Ø</b>	
2	4002	8097	124517-002	2 h.p. motor (ODP)

\* 113281 top plate is used for all QR 310 base mounted electric motor driven units.

\*\* 2298-175 pressure switch is used on standard QR 310 base mounted electric motor driven units.

! Pre-formed discharge tubes are available. Contact factory with model & tank size information.

# TYPICAL UNIT REPAIR PARTS LIST

The parts listed here are for standard QR 310 (up to 175 PSI) units and may or may not be applicable to custom built units. Check with your local authorized Quincy distributor for parts that can be used for custom built units. Make sure the components you order are rated within the safe operating limits of your system. If you are doubtful about which components to order, contact your local Quincy distributor.

(QR 310 vertical tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
<b>60 gal.</b>				
1	114948P200			tank (200 PSI max. working pressure)
1	110425-025			tank drain valve
1	111136-075			ball valve
1	110514-300			pressure gauge
1	110512-003			pressure switch (135-175 PSI)
1	110513-200			pressure relief valve (200 PSI)
2.5 ft.	110515-050			! discharge tube (1/2" copper tube to be formed by customer)
2	110948-050			compression fittings
<b>2 h.p.</b>				
1	110258B057			drive belt
1	3597-78			motor pulley
	n/a			motor pulley bushing
1	110945K002			belt guard assembly
<b>115/230v, 1Ø      200v, 3Ø      230/460v, 3Ø</b>				
1	4002	8097	124517-002	2 h.p. motor (ODP)

! Pre-formed discharge tubes are available. Contact factory with model & tank size information.

## **QUINCY COMPRESSOR**

### **STANDARD TERMS AND CONDITIONS**

**LEGAL EFFECT:** Except as expressly otherwise agreed to in writing by an authorized representative of Seller, the following terms and conditions shall apply to and form a part of this order and any additional and/or different terms of Buyer's purchase order or other form of acceptance are rejected in advance and shall not become a part of this order.

The rights of Buyer hereunder shall be neither assignable nor transferable except with the written consent of Seller.

This order may not be canceled or altered except with the written consent of Seller and upon terms which will indemnify Seller against all loss occasioned thereby. All additional costs incurred by Seller due to changes in design or specifications, modification of this order or revision of product must be paid for by Buyer.

In addition to the rights and remedies conferred upon Seller by this order, Seller shall have all rights and remedies conferred at law and in equity and shall not be required to proceed with the performance of this order if Buyer is in default in the performance of such order or of any other contract or order with seller.

**TERMS OF PAYMENT:** Unless otherwise specified in the order acknowledgment, the terms of payment shall be 1% 15, net forty-five (45) days after shipment. These terms shall apply to partial as well as complete shipments. If any proceeding be initiated by or against Buyer under any bankruptcy or insolvency law, or in the judgment of Seller the financial condition of Buyer, at the time the equipment is ready for shipment, does not justify the terms of payment specified, Seller reserves the right to require full payment in cash prior to making shipment. If such payment is not received within fifteen (15) days after notification of readiness for shipment, Seller may cancel the order as to any unshipped item and require payment of its reasonable cancellation charges.

If Buyer delays shipment, payments based on date of shipment shall become due as of the date when ready for shipment. If Buyer delays completion of manufacture, Seller may elect to require payment according to percentage of completion. Equipment held for Buyer shall be at Buyer's risk and storage charges may be applied at the discretion of Seller.

Accounts past due shall bear interest at the highest rate lawful to contract for but if there is no limit set by law, such interest shall be eighteen percent (18%). Buyer shall pay all cost and expenses, including reasonable attorney's fees, incurred in collecting the same, and no claim, except claims within Seller's warranty of material or workmanship, as stated below, will be recognized unless delivered in writing to Seller within thirty (30) days after date of shipment.

**TAXES:** All prices exclude present and future sales, use, occupation, license, excise, and other taxes in respect of manufacture, sales or delivery, all of which shall be paid by Buyer unless included in the purchase price at the proper rate or a proper exemption certificate is furnished.

**ACCEPTANCE:** All offers to purchase, quotations and contracts of sales are subject to final acceptance by an authorized representative at Seller's plant.

**DELIVERY:** Except as otherwise specified in this quotation, delivery will be F. O. B. point of shipment. In the absence of exact shipping instruction, Seller will use its discretion regarding best means of insured shipment. No liability will be accepted by Seller for so doing. All transportation charges are at Buyer's expense. Time of delivery is an estimate only and is based upon the receipt of all information and necessary approvals. The shipping schedule shall not be construed to limit seller in making commitments for materials or in fabricating articles under this order in accordance with Seller's normal and reasonable production schedules.

Seller shall in no event be liable for delays caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control. No provision for liquidated damages for any cause shall apply under this order. Buyer shall accept delivery within thirty (30) days after receipt of notification of readiness for shipment. Claims for shortages will be deemed to have been waived if not made in writing with ten (10) days after the receipt of the material in respect of which any such shortage is claimed. Seller is not responsible for loss or damage in transit after having received "In Good Order" receipt from the carrier. All claims for loss or damage in transit should be made to the carrier.

**TITLE & LIEN RIGHTS:** The equipment shall remain personal property, regardless of how affixed to any realty or structure. Until the price (including any notes given therefore) of the equipment has been fully paid in cash, Seller shall, in the event of Buyer's default, have the right to repossess such equipment.

**PATENT INFRINGEMENT:** If properly notified and given an opportunity to do so with friendly assistance, Seller will defend Buyer and the ultimate user of the equipment from any actual or alleged infringement of any published United States patent by the equipment or any part thereof furnished pursuant hereto (other than parts of special design, construction, or manufacture specified by and originating with Buyer), and will pay all damages and costs awarded by competent court in any suit thus defended or of which it may have had notice and opportunity to defend as aforesaid.

**STANDARD WARRANTY:** Seller warrants that products of its own manufacture will be free from defects in workmanship and materials under normal use and service for the period specified in the product instruction manual. Warranty for service parts will be Ninety (90) days from date of factory shipment. Electric Motors, gasoline and diesel engines, electrical apparatus and all other accessories, components and parts not manufactured by Seller are warranted only to the extent of the original manufacturer's warranty.

Notice of the alleged defect must be given to the Seller, in writing with all identifying details including serial number, type of equipment and date of purchase within thirty (30) days of the discovery of the same during the warranty period.

Seller's sole obligation on this warranty shall be, at its option, to repair or replace or refund the purchase price of any product or part thereof which proves to be defective. If requested by Seller, such product or part thereof must be promptly returned to seller, freight prepaid, for inspection.

Seller warrants repaired or replaced parts of its own manufacture against defects in materials and workmanship under normal use and service for ninety (90) days or for the remainder of the warranty on the product being repaired.

This warranty shall not apply and Seller shall not be responsible or liable for:

- (a) Consequential, collateral or special losses or damages;
- (b) Equipment conditions caused by fair wear and tear, abnormal conditions of use, accident, neglect or misuse of equipment, improper storage or damage resulting during shipping;
- (c) Deviation from operating instructions, specifications or other special terms of sale;
- (d) Labor charges, loss or damage resulting from improper operation, maintenance or repairs made by person(s) other than Seller or Seller's authorized service station.

In no event shall Seller be liable for any claims whether arising from breach of contract or warranty or claims of negligence or negligent manufacture in excess of the purchase price.

**THIS WARRANTY IS THE SOLE WARRANTY OF SELLERS AND ANY OTHER WARRANTIES, WHETHER EXPRESSOR IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE ARE HEREBY SPECIFICALLY EXCLUDED.**

**LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, whether resulting from delays in delivery or performance, breach of warranty, negligent manufacture or otherwise.

**ENVIROMENTAL AND OSHA REQUIREMENTS:** At the time of shipment of the equipment from the factory, Quincy Compressor / Ortman Fluid Power will comply with the various Federal, State and local laws and regulations concerning occupational health and safety and pollution. However, in the installation and operation of the equipment and other matters over which the seller has no control, the Seller assumes no responsibility for compliance with those laws and regulations, whether by the way of indemnity, warranty or otherwise.

June 30, 2003

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