

Hydraulic salt & sand spreader

Models A-200H/A-260H/A-320H

Capacity 1-1/2, 2, 2-1/2 cu.yd.

Warranty Registration Card

Dealer must fill out **Warranty Registration Card** and return to Arctic Equipment Manufacturing Corporation by fax or mail.

Arctic Equipment Manufacturing Corporation

35 Artisans Cres.
London, Ontario
Canada
N5V 5E9
Tel: (519) 452-3406
Fax: (519) 452-7119

Owners Name: _____

Address: _____

Date of Installation: _____

Model #: _____

Serial#: _____

How did you become aware of **Arctic Equipment Manufacturing Corporation**?

- Newspaper Friend Radio/TV
 Internet Distributor Previous Purchase
 Other (specify) _____

Distributor's name: _____

Distributor's Address: _____

Sander Warranty

ARCTIC salt/sanding equipment is guaranteed to be free from defects in material or workmanship under normal use and service for 1 (one) year after the date of purchase (except engine – see below).

Arctic Equipment Manufacturing Corporation will replace or repair, at its election, without charge, any part which becomes defective within the period of time described above. Hydraulic motors, pumps and gear reducer, etc. are also covered under warranty for a period of one year, with normal use.

Briggs & Stratton engine is covered for 90 days under warranty after the date of purchase and Honda engine is covered for 2 years after the date of purchase. Warranty and service of the engine is handled by Honda or Briggs & Stratton dealers. Specifications below what is not covered under warranty.

In no event shall Arctic Equipment Manufacturing Corporation be liable for claims for loss of use or consequential damages.

This warranty is made only to the original purchaser. There is no other warranty expressed, implied, or statutory.

All parts returned to us, transportation charges prepaid, must be accompanied with a "Return Goods Authorization" number, obtained from the factory. In order to reduce down-time, we will, on your request, send the parts required and you will be billed under the usual terms. A credit will be issued to your account when the parts, in our examination, prove to be defective.

Arctic Equipment Manufacturing Corporation reserves the right to change specification without prior notice.

Specifics not considered under warranty

Certain types of damage can occur, which cannot be attributed to defects in material and/or warranty, but rather as the owner's responsibility.

These conditions include, but are not limited to the following items. Damage resulting from:

1. Lack of or dirty lubrication.
2. Using other than recommended grade and type of lubrication.
3. Accident, abuse or neglect.
4. Stripped keyways or splines on external shafts.
5. Running over recommended speeds.
6. Repairs by an unauthorized person.
7. Damage caused by improper mounting or conditions on units not mounted by factory.
8. Improper maintenance or storage of equipment.

Customer Responsibility

The loaded vehicle, including all after market accessories, the salt/sanding equipment, passengers, and cargo, **MUST NOT** exceed the gross vehicle weight ratings (GAWR), front gross axle weight rating (FGAWR) or rear gross axle weight rating (RGAWR) specified on the Safety Compliance Certification Label located in the driver's side door opening. **It is the operator's responsibility to verify that these ratings are not exceeded.**

To determine the Gross Axle Weights for your vehicle, including all after market accessories, the salt/sanding equipment, passengers, and cargo, take your loaded vehicle to a scale. Place the front wheels of the vehicle on the scale to get the Front Gross Axle Weights (FGAW). To get the Rear Gross Axle Weights (RGAW), place the back wheels of the vehicle on the scale.

Disclaimer notice

Arctic Equipment Manufacturing Corporation (Arctic) does not assume liability for damage to your motor vehicle resulting from the attachment or use of Arctic salt/sanding equipment. The purchaser assumes all vehicle risk associated with the attachment and operation of this salt/sanding equipment.

The added weight may impair the operation and control of your vehicle. Additional equipment may be necessary before installing salt/sanding equipment. Please consult your vehicle dealers prior to the purchase and installation of the salt/sanding equipment.

Ordering parts

Delays and errors can be eliminated if ordering instructions are followed correctly.

1. Place orders direct with Arctic Equipment Manufacturing or nearest dealer.
2. State company name, address, and postal/zip code.
3. Give exact model and serial number of the machine (stamped on the unit identification plate).
4. Furnish part number, description and quantities required.
5. Print or type order clearly.
6. Give specific shipping instructions.

Operation

These models are to be powered by an under hood hydraulic pump which is driven by the trucks engine, by a double V-belt. A cab mounted switch activates an electric clutch which in turn drives the pump. This feature not only allows the conveyor to be turned on and off but also prevents unnecessary pump wear.

The oil from the pump feeds the oil tank mounted flow control valve. The valve diverts a preset amount of oil to the spinner/drive motor. It can be set, by means of a control lever, to direct from 0-8 GPM to the motor. By varying the flow, both the discharge rate and spread pattern width can be adjusted. The gate opening on this model also affects the discharge rate of the unit. One point that should be kept in mind is that as conveyor slows down (low oil flow) so does the spinner. Therefore, the spread width becomes narrower. (See page "Payload discharge rate graph")

In order for the system to work properly throughout the entire design range, the pump must deliver a minimum of 5 GPM. If the pump is driven by a 1:1 ratio V-belt setup, the flow should be achieved at 1500 RPM. The valve is designed to only allow a maximum of 8 GPM to pass the motor. Any excess flow from the pump is bypassed to the tank.

This model is equipped with an adjustable sand discharge chute. You can vary the spread width by simply redirecting the sand to another part of the spinner.
Note: Factory ordered pumps are equipped with an electric clutch. Dealer supplied units may not be so equipped.

Maintenance

Daily Inspection and Lubrication

- a) Check gearbox oil level. It should be filled to the oil level plug. (Item #2, see page "Hopper assembly-hydraulic")
- b) Check hydraulic oil tank level. Level should be at the centre of the sight eye.
- c) Lubricate the following grease nipples:
 - 1) 1 on gear reducer (item #2, see page "Hopper assembly-hydraulic")
 - 2) 2 on conveyor idler shaft (item #7, see page "Hopper assembly-hydraulic")
 - 3) 1 on drive shaft bearing (item #3, see page "Hopper assembly-hydraulic")
 - 4) 1 on spinner shaft bearing (item #23, see page "Hopper assembly-hydraulic")
 - 5) 1 on "U"-Joint (item #24, see page "Hopper assembly-hydraulic")

- d) Check the hydraulic hoses and fittings for leaks, as well as the pump drive belts for wear, at least once a week.

Yearly Inspection

- a) At the end of the operating season, the unit should be thoroughly cleaned and lubricated or repainted where necessary. The conveyor chain (item #1, see page “Hopper assembly-hydraulic”) should, ideally, be stored in oil. These preventative measures should prevent premature rusting of the unit. Grease bolts on the chain tighteners. (Item #6, see page “Hopper assembly-hydraulic”)
- b) At this time or before the start of the next season, it is wise to check all drive components for appreciable wear. Any components which are questionable should be replaced now. This short and simple check will avoid down time during the operating season.
- c) Change the gear box oil.

Annual Inspection

- a) Change the hydraulic oil.
- b) Replace the oil filter. (Note: If the unit is utilized year round, replace it twice a year).
- c) Check all hydraulic fittings to ensure they are tight.

Before Operating

- a) Grease all lubrication points.
- b) Ensure that the conveyor chain is dragging for one foot on the bottom return channel, or the spreader. (Do not over tighten the chain).
- c) Ensure all hydraulic fittings are tight.
- d) The hydraulic oil level, in the tank, should be at the center of the oil level eye.

Lubricants

Hydraulic Oil.....Texaco Rando HD22 or approved equivalent
Speed Reducer Lubricant.....80W90 Gear lube

Spreader Installation

The A200/260 spreader is designed for installation in a 6'/8' pickup truck bed. The A320 spreader is designed for 10' dump truck or flat deck truck. Follow the step below to install your unit in your vehicle.

a) Slide spreader into position and secure with the ratchet straps into the cargo tie downs of the truck (item #6, see page "Hopper installation")

Note: The oil tank should be mounted in the front left corner of the bed, before installing the spreader. The unit is designed to mount against the side of the bed flange and to the floor. The oil level eye should face outwards from the bed.

b) Weld mounting angle bracket to spreader, then bolt it to the back of the truck using ½" bolt. (Item #2, 3, 4, 5, see page "Hopper installation")

c) Install the sand chute using the required pivoting/fastening components. (Item #14, see page "Hopper assembly-hydraulic")

d) Assemble the spinner assembly, as shown in the assembly drawing in this manual, using the appropriate components. (Item #22, see page "Hopper assembly-hydraulic")

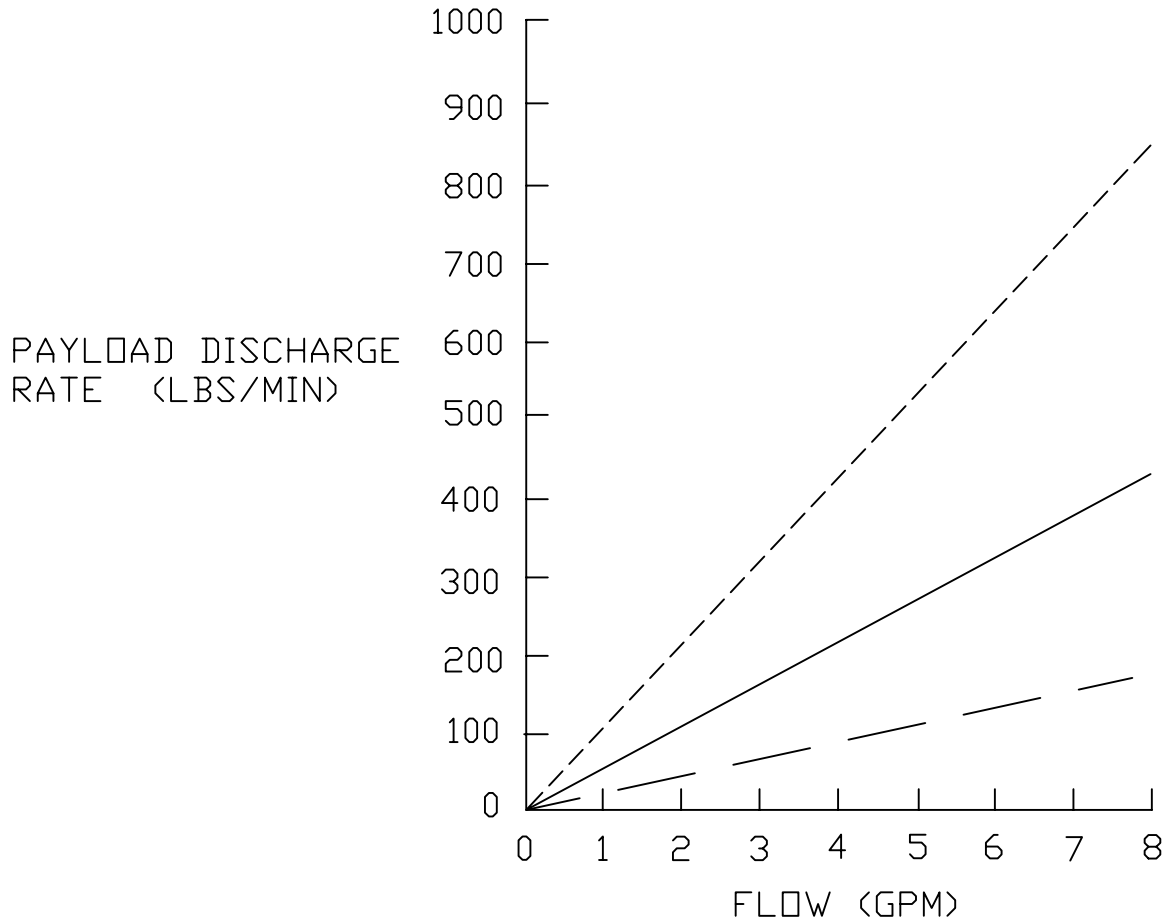
e) Position the spinner disc at the desired height. Using the hole in the spinner disc hub as a guide, drill a hole through the shaft, for the mounting bolt. Cut off any excess length from the shaft and install the spinner disc. (Item #27, see page "Hopper assembly-hydraulic")

f) Connect all the lines as shown in the hydraulic system diagram. Be sure all the fittings are tight and do not leak. (See page "Hydraulic system installation")

g) If your unit is equipped with a hydraulic pump, mount the unit in an appropriate location under the hood. Install and connect the pump clutch switch, as shown in the literature supplied with the pump.

h) Note that the unit is supplied with quick disconnect couplers. This will enable you to remove the spreader easily, when it is not required. Connect the two hoses together or use the protective plugs and caps, on the couplers, when the unit is removed. This will protect the couplers and prevent system contamination.

PAYLOAD DISCHARGE RATE GRAPH
(HYDRAULIC POWERED MODEL)



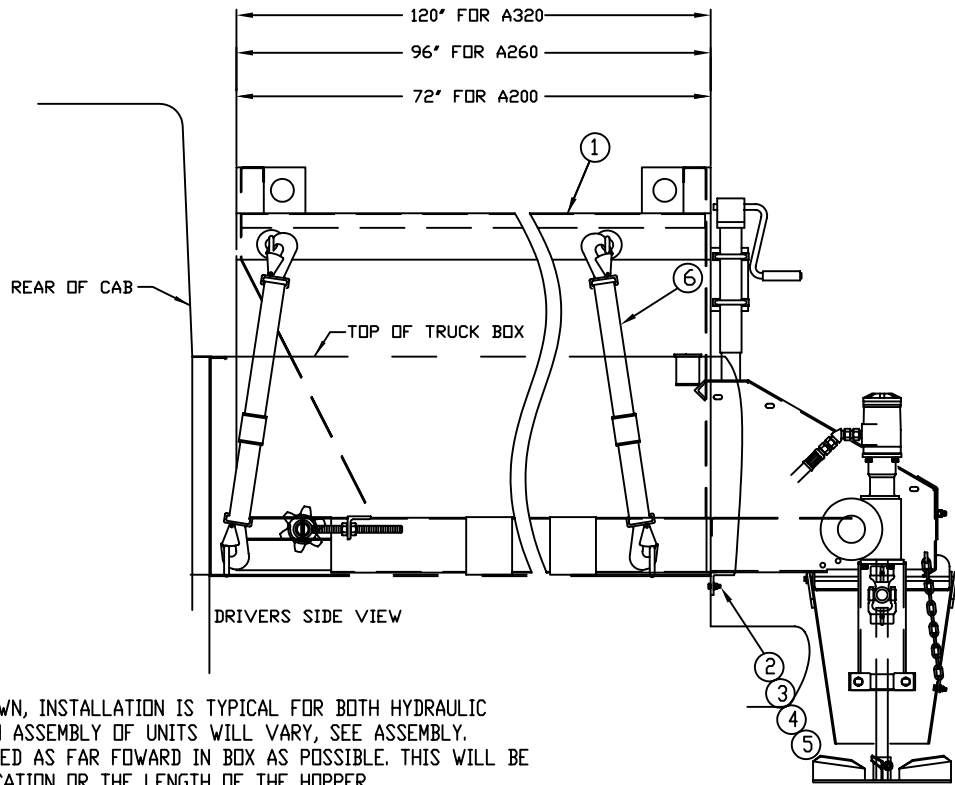
----- 6" GATE OPENING

————— 3" GATE OPENING

— — — 1 1/4" GATE OPENING

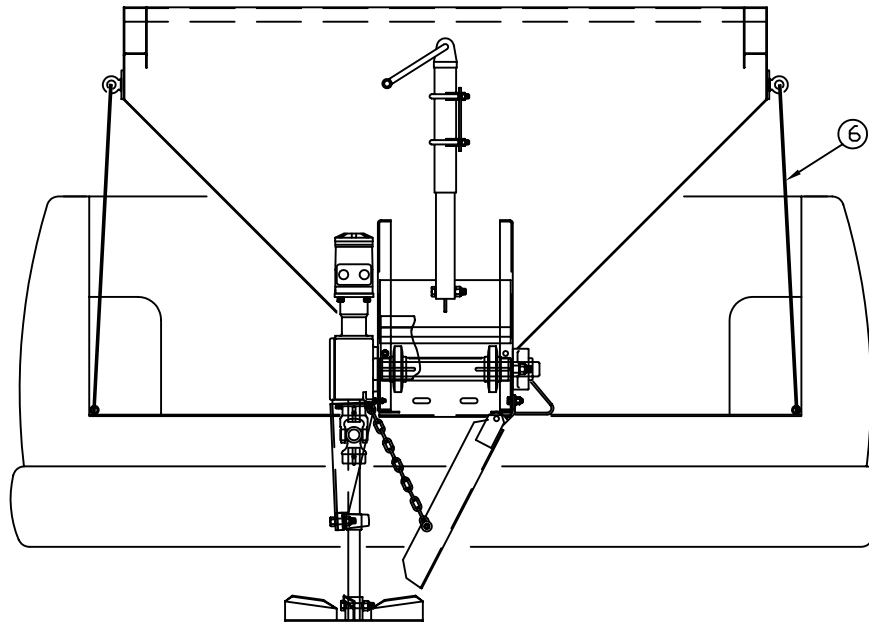
The graph above shows what effect certain flows and gate openings have upon the discharge rate. Note that these figures are theoretical and are assuming a 75% efficiency factor.

HOPPER INSTALLATION



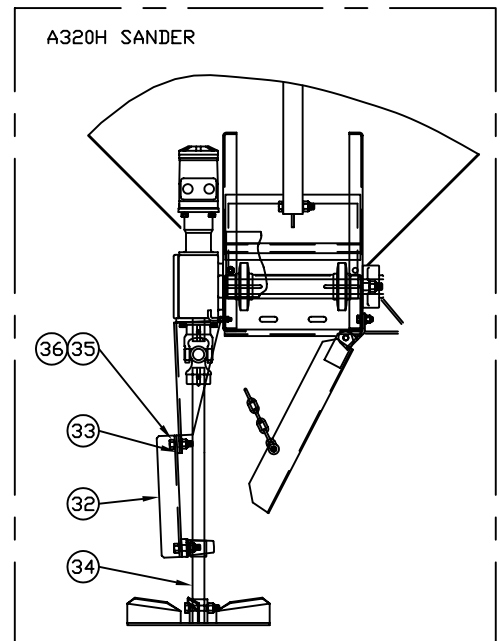
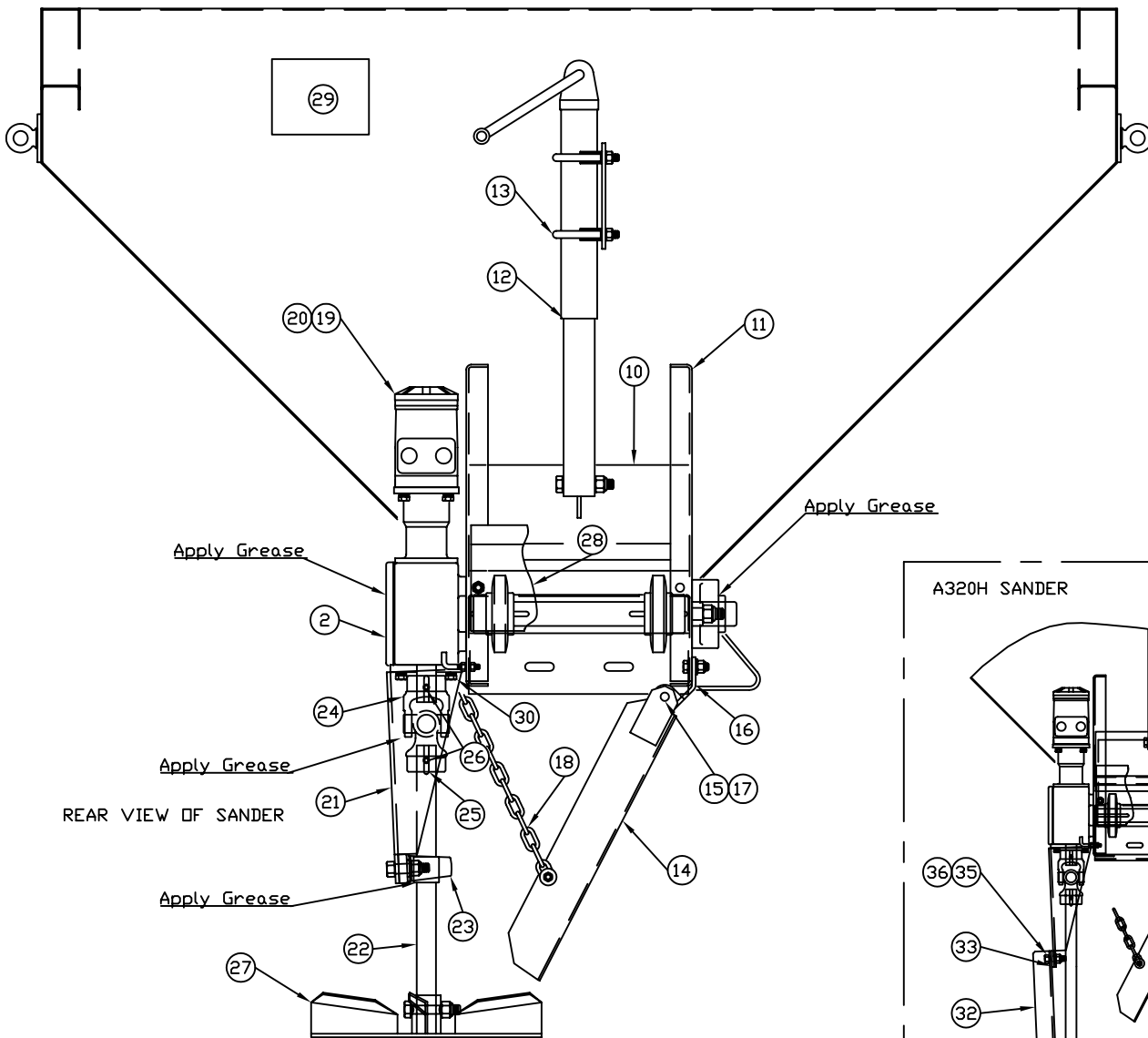
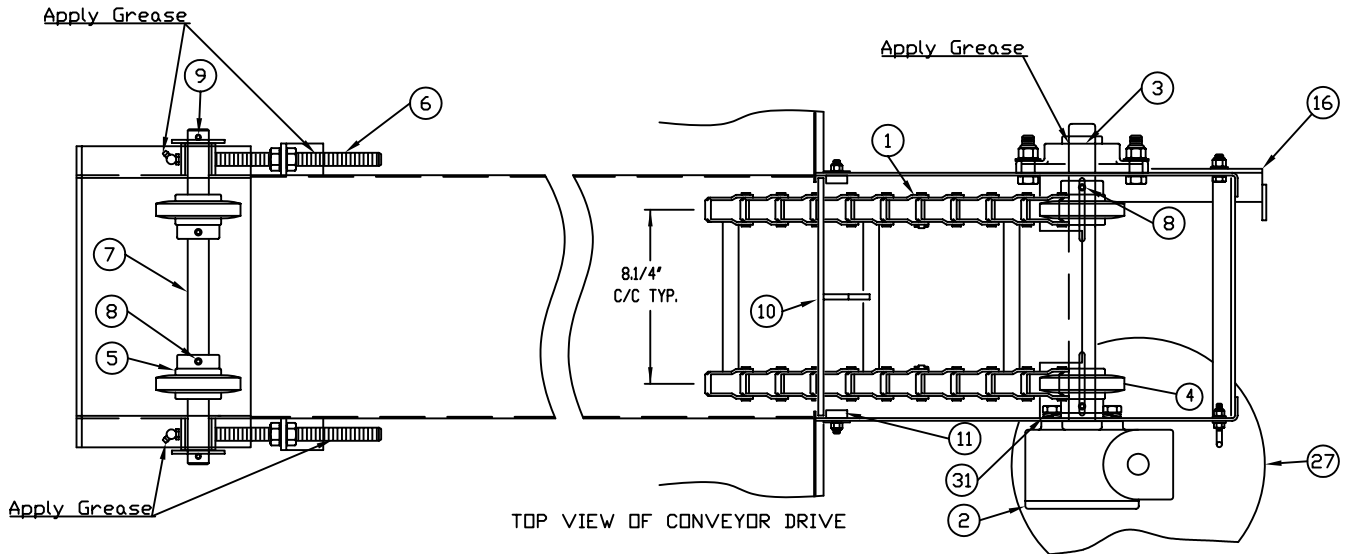
NOTE:

1. HYDRAULIC VERSION SHOWN, INSTALLATION IS TYPICAL FOR BOTH HYDRAULIC AND GAS ENGINE, ALTHOUGH ASSEMBLY OF UNITS WILL VARY, SEE ASSEMBLY.
2. HOPPER IS TO BE LOCATED AS FAR FORWARD IN BOX AS POSSIBLE. THIS WILL BE LIMITED BY THE CHUTE LOCATION OR THE LENGTH OF THE HOPPER.
3. ASSEMBLE CHUTE AND SPINNER SHAFT AS SHOWN IN OWNERS MANUAL. SPINNER DISK HEIGHT IS TO BE DECIDED BY CUSTOMER.



ITEM	PART NO.	DESCRIPTION	QTY.
1	RD-38756	HOPPER ASSY. - HYDRAULIC	-
1	RD-38757	HOPPER ASSY. - GAS ENGINE	-
2	RB-38759	MTG. STOP ANGLE	1
3	HH-00972-090	BOLT, HEX. 1/2"-20 x 1 1/2"	2
4	HH-00457-001	LOCKWASHER	2
5	HH-00460-002	HEX NUT, 1/2"-20	2
6	90040-N	RATCHET STRAP	4

HOPPER ASSEMBLY- HYDRAULIC



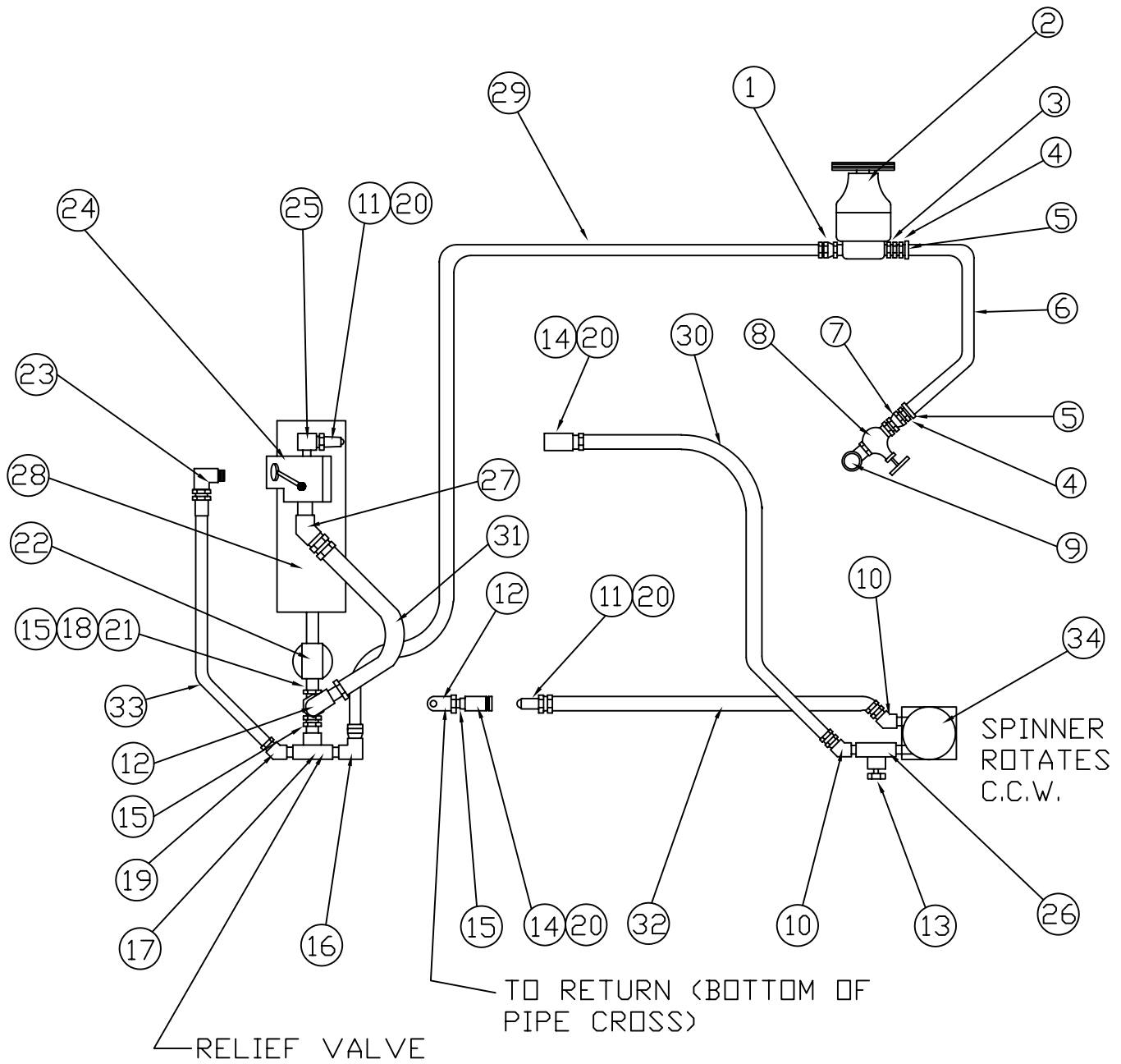
NOTE:
 1. ALL ITEMS ARE TYPICAL FOR BOTH THE A200H/A260H/A320H WITH THE EXCEPTION OF THE CHAIN ASSY. ITEM 1 AND THE ITEMS FOR THE A320H SHOWN ON THE DRAWING A320H SANDER.
 2. THE BOTTOM OF THE GATE IS TO BE 1.1/4' CLEAR OF THE CONVEYOR FLOOR WHEN THE JACK SCREW HAS BEEN FULLY EXTENDED.
 3. THE GEAR REDUCER (2) IS TO BE FILLED WITH GEAR OIL (EP SAE 80W-90).

HOPPER ASSEMBLY - HYDRAULIC

ITEM	PART NO.	DESCRIPTION	QTY.	COMMENTS
1	RB-32992	CHAIN ASSY., A-200 ONLY	1	-
1	RB-32992-02	CHAIN ASSY., A-260 ONLY	1	-
1	RB-32992-03	CHAIN ASSY., A-320 ONLY	1	-
2	RB-38770	GEAR REDUCER, 20:1 HYD.	1	-
3	HH-00860-017	DRIVE SPROCKET BEARING	1	-
4	RB-872	DRIVE SPROCKET	2	-
5	RB-874	IDLER SPROCKET	2	-
6	RB-875	CHAIN TIGHTNER	2	-
7	RB-876	IDLER SHAFT	1	-
8	HH-00017-037	SET SCREW, CUP 5/16-18 x 1/4"LG.	4	-
9	HH-00104-019	ROLL PIN, 1/4"DIA.x 1.1/2"LG.	2	-
10	RB-38771	GATE WELD'T.	1	-
11	RB-38773	GATE GUIDE	2	-
12	HH-00886-001	JACK SCREW ASSY.	1	-
13	HH-00237-002-PL	MUFFLER CLAMP, 1.3/4 CAD. PLATED	2	-
14	RB-32996	SALT CHUTE WELD'T.	1	-
15	RC-32854-02	HINGE PIN WELD'T.	1	-
16	RB-38774	MTG. PLATE - CHUTE	1	-
17	HH-00020-081	COTTER PIN, 1/8" DIA.x 3/4" LG.	1	-
18	HH-00789-003-14	CHAIN, 3/16" DIA.x 14" LG.	1	-
19	RC-32890	HYDRAULIC SYSTEM TANK	1	-
20	RM-32723	HYD. MOTOR	1	-
21	RB-38777	SPINNER SUPPORT WELD'T.	1	-
22	RC-32913	SPINNER SHAFT 13 1/4"	1	-
23	HH-00905-013	SPINNER BEARING	1	-
24	RM-32834-00	"U" JOINT	1	-
25	RD-38756-26	KEY, 1/4" SQ.x 1.1/2"LG.	2	-
26	HH-00017-054	SET SCREW, CUP 3/8-16 x 1/2"LG.	2	-
27	RB-889	SPINNER DISC WELD'T. - R.H.	1	-
28	RB-38780	END PLATE	1	-
29	DA-34438	DECAL - CAUTION, STAND CLEAR	1	-
30	HH-00909-011	BOLT, HEX. 8mm.x1.25 - 25mm.LG	3	-
31	HH-00300-062	BOLT, HEX. 1/2 UNC x 1" LG S.ST.	4	-
32*	90068-A	EXTENSION BRACKET	1	-
33*	90067-A	SPACER	1	-
34*	RC-32913-EX	SPINNER SHAFT 21 1/2"	1	-
35*	HH-00293-072	BOLT, HEX, 7/16-14 X 1 3/4"	2	-
36*	HH-00340-002	LOCK NUT 7/16"-14	2	-

* Note: These items are used only for A320H hydraulic sander

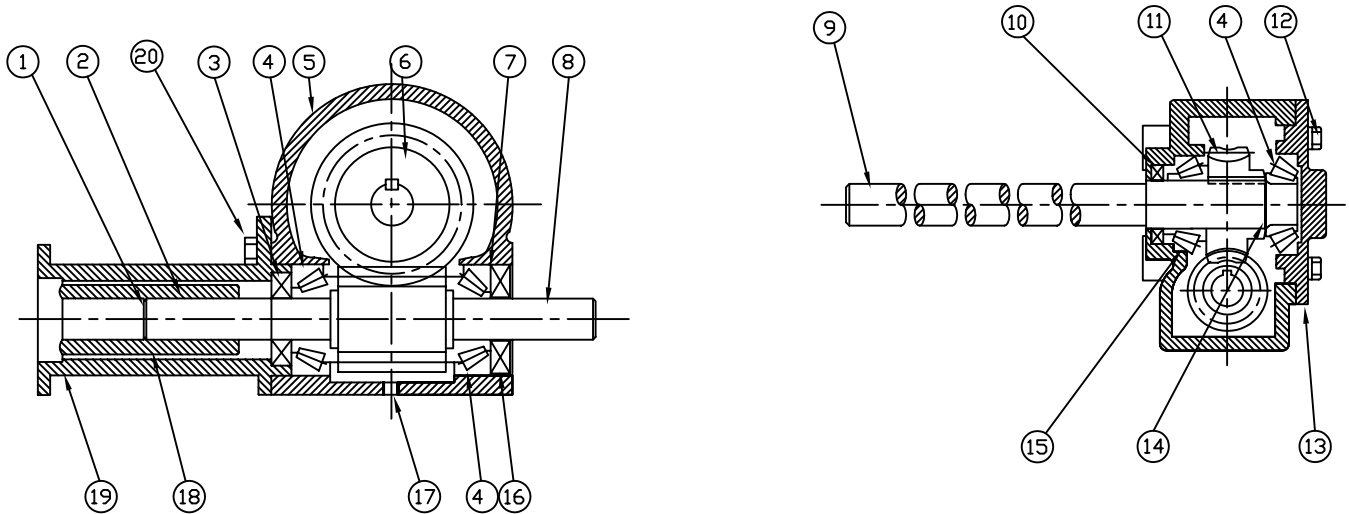
HYDRAULIC SYSTEM INSTALLATION



HYDRAULIC SYSTEM INSTALLATION

ITEM	PART NO.	DESCRIPTION	QTY.
1	HH-00794-010	STR. SWIV. 3/4 M x 1/2 FM NPT	OPT.
2	RM-32889-01	BELT DRIVE PUMP	OPT.
3	HH-00794-019	STR. SWIV. 3/4 M x 1 FM NPT	OPT.
4	HH-00850-002	HOSE END FITT. 1"	2
5	HH-00627-002	HOSE CLAMP 1"	2
6	HH-00849-002	SUCTION HOSE 1"x A/R LG.	1
7	HH-00794-013	STR. SWIV. 1 M x 1 FM NPT	1
8	HH-00844-005	GATE VALVE 1" NPT	1
9	HH-00048-006	90 ELBOW STREET 1 M x 1 FM NPT	1
10	HH-00915-005	45 ELBOW SWIV. 1/2 M x 1/2 FM NPT	3
11	HH-00888-035	QUICK DISCONNECT - MALE 1/2 NPT	2
12	HH-00048-004	90 ELBOW ST. 1/2 M x 1/2 FM NPT	1
13	HH-00853-004	HEX PLUG 1/2 NPT	1
14	HH-00888-028	QUICK DISCONNECT -FEMALE 1/2 NPT	2
15	HH-00051-004	CLOSE NIPPLE 1/2 NPT	2
16	HH-00790-007	90 ELBOW SWIV. 3/4 M x 1/2 FM NPT	1
17	RM-32986	RELIEF VALVE	1
18	HH-00088-007	REDUCER 3/4 M x 1/2 FM NPT	1
19	HH-00915-012	45 ELBOW SWIV. 3/4 M x 1/2 FM NPT	1
20	HH-00928-003	QUICK DISCONNECT CAP & PLUG	2
21	HH-00948-004	PIPE CROSS 1/2 FM NPT	1
22	RM-32828	FILTER ASSY.	1
23	HH-00790-006	90 ELBOW SWIV. 1/2 M x 1/2 FM NPT	1
24	RM-32829	FLOW CONTROL VALVE	1
25	HH-00882-006	90 ELBOW 1/2 M x 1/2 M NPT	1
26	HH-00843-004	TEE SERVICE 1/2 NPT	1
27	HH-00915-005	45 ELBOW SWIV. 1/2 M x 1/2 FM NPT	1
28	RE-32874-00	OIL TANK, 8 GAL.	1
29	HH-00846-204	HOSE ASSY. 1/2" x A/R LG.	1
30	HH-00846-120	HOSE ASSY. 1/2" x 120" LG.	1
31	HH-00846-024	HOSE ASSY. 1/2" x 24" LG.	1
32	HH-00846-108	HOSE ASSY. 1/2" x 108" LG.	1
33	HH-00846-024	HOSE ASSY. 1/2" x 24" LG.	1
34	RM-32723	HYDRAULIC MOTOR	1

GEAR REDUCER (HYDRAULIC) (RB-38770)



ITEM	DESCRIPTION	QTY
1	INTERNAL CIRCLIP N-1300-0100	1
2	SQUARE KEY $\frac{1}{4} \times 1\frac{1}{4}$	2
3	OIL SEAL TC (30x50x8) (DOUBLE LIPS)	1
4	TAPERED ROLLER BEARINGS 30206	3
5	HOUSING	1
6	WORM GEAR (40 TEETH)	1
7	INTERNAL CIRCLIP D-1300-0620	1
8	INPUT WORM SHAFT (DOUBLE THREADS)	1
9	OUTPUT SHAFT $\varnothing 1\frac{1}{4}$	1
10	OIL SEAL TC	1
11	SQUARE KEY (8x7x40) LONG	1
12	BOLTS (M10x1.5)	4
13	OUTPUT COVER	1
14	EXTERNAL CIRCLIP N-1400-0125	1
15	TAPERED ROLLER BEARINGS 30207	1
16	OIL SEAL TC (30x62x8) (DOUBLE LIPS)	1
17	DRAIN PLUG $\frac{1}{4}$ -19 NPT	2
18	BUSHING I.D. $\varnothing 1'$ O.D. $\varnothing 1\frac{1}{2}$ x 3' LONG	1
19	HYDRAULIC ADAPTER	1
20	BOLTS (M8x1.25)	3
	PRESSURE VENT $\frac{1}{4}$ -19 NPT 5 PSI	1
	FILL IN PLUG $\frac{3}{8}$ -NPT	1
	6mm STRAIGHT GREASE FITTING	1

NOTE:
 WHEN ORDERING PARTS, ADD PREFIX TO THE ITEM
 NO. eg. RB-38770-6 WORM GEAR