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DRIVE

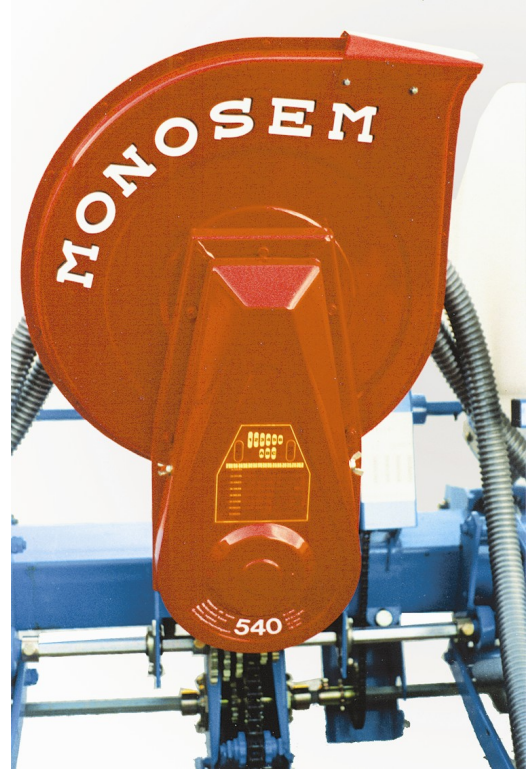
Standard Turbofan 540, 450 & 1000 RPM with PTO Drive

Your Monosem planter will be equipped with either a 540, 450 or 1000 rpm turbofan. A special pump pulley is available as optional equipment for the 450 and 540 turbofans.

It is recommended to use a 450 rpm turbofan when using a hydraulic drive.

The vacuum hose is attached to the outlets on the back of the turbofan and delivers suction to the metering box of each unit. An arrow decal sticker on the back of the turbofan indicates that the turbofan blade runs in a counter clockwise direction. A protection shield against the rain is located at the top of the turbofan, and when in a raised position, indicates that the turbofan is operating.

Note: Before planting, make sure that the support brackets are tight to eliminate any vibrations of the turbofan. A vacuum gauge may also be mounted to the frame.



PTO (Power Take Off)

The PTO connects the tractor to the turbofan.



Make sure you connect the proper end of the PTO to the tractor. An arrow on the PTO indicates the end that is attached to the tractor.

The following warning is placed on your PTO shaft for your safety.



DANGER Rotating drive line contact can cause death – keep away. Do not operate without all driveline, tractor and equipment shields in place, without drivelines securely attached at both ends, and without driveline shields that turn freely on driveline.

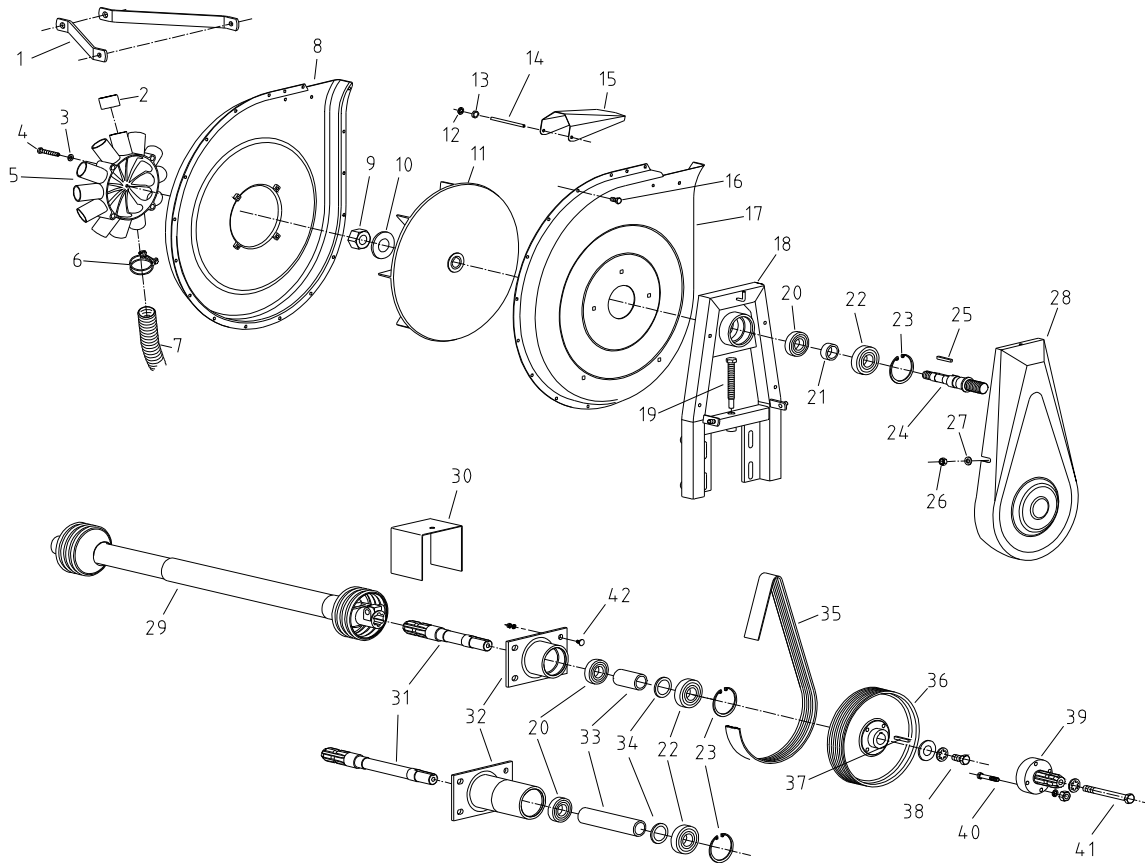


Vacuum gauge

DRIVE

Standard Turbofan 540, 450 and 1000 rpm

ASSEMBLY



ITEM	PART No.	DESCRIPTION
1	4532	Support strap - 565mm long (22 1/4")
	4532.1	Support strap - 340mm long (13 3/8")
	4532.2	Support strap - 480mm long (18 7/8")
2	4451	Plastic cap
3	10620064	Washer 8.5x16x2mm
4	10511062	Bolt, 8x55mm (to secure manifold)
5	4450	12-Hole manifold
6	4453	Hose clamp
7	4454	Vacuum hose 40mm (specify length req.d)
8	4402.B	Fan housing manifold side
9	NM-72005	Nylon lock nut 20mm (to secure fan blade)
10	10623042	Washer 22.5x48x3mm (on upper shaft)
11	4403.B	Fan blade (plastic, 16 1/8" dia.)
12	6090	Snap ring 6mm
13	6089	Rubber ring
14	4455	Pin for outlet shield
15	4429.A	Outlet shield
16	10500091	Hex bolt 6x12mm
17	4401.B	Fan housing (support frame side)

DRIVE

Standard Turbofan 540, 450 and 1000 rpm

ASSEMBLY

ITEM	PART No.	DESCRIPTION
18	4400.1	Support frame
19	4440	Special bolt tension adjustment
20	4407	Bearing 62mm (62062RS)
21	4410.A	Spacer upper shaft
22	4408	Bearing 72mm (63062RS)
23	4409	Snap ring internal 72mm
24	4452	Upper shaft, 540 & 1000 rpm (1 1/8" dia. pulley)
	4452.1	Upper shaft, 450 rpm (7/8" dia. pulley)
25	4439.A	Key upper shaft (6x6x45mm)
26	NM-21015	Lock nut 10mm
27	10620089	Washer 10.5x20x2mm
28	4414.1	Cover shield for belt
	4414.2	Cover shield (with optional pump pulley)
29	4428.B	PTO drive shaft 540rpm 24"
	4428.B21	PTO drive shaft 1000rpm 24"
	4431.B	PTO drive shaft 540rpm 36"
	4431.B21	PTO drive shaft 1000rpm 36"
	4432.B	PTO drive shaft 540rpm 54" - Pull-Type only
	4432.B21	PTO drive shaft 1000rpm 54"- Pull-Type only
	900058	PTO drive shaft pull type with 20 splines 54" - Pull-Type only
30	4434.4	Safety shield
31	4405.A	Lower shaft (1 3/8" 6 spline adapter)
	4405.A2	Lower shaft extended 7X7 PTO
32	4404	Shaft housing (lower drive shaft)
	4404.3	Shaft housing extended 7X7 PTO
33	4411	Spacer lower shaft
	4411.2	Spacer extended 7X7 PTO
34	10624018	Washer 31x41x3mm
35	4413	Belt, 450 & 540 rpm (PJ1168/460J or 460J19)
	4413.1	Belt 1000 rpm (PJ955/376J)
36	4412.2	Pulley, 450 & 540rpm (9 13/16" dia.)
	4412.3	Pulley, 1000 rpm (5 5/16" dia.)
37	4437	Key lower shaft (8x7x40mm)
38	HM-61230	Bolt, 12x30mm (to secure pulley)
	10621061	Washer 13x40x4mm (to secure pulley)
39	4426	Pump pulley (6 spline stub shaft)
40	HM-2850	Bolt, 8x50mm
	10629009	Lock washer 8x14mm
41	HM-65110	Bolt, 12x110mm
	10101012	Lock washer 12x20mm
42	CB-3322	Carriage bolt 7/16-14 x 2"
	W-3610	Lock washer 7/16"
	N-3000	Hex nut 7/16-14

DRIVE

High Output Turbofan 500 & 1000 RPM With PTO Drive

The high output turbofan was designed to provide more air than the standard turbofan. The high output turbofan is to be used when the planter is 8 rows or more and when planting heavy seed such as beans.

When using a hydraulic drive, a 500-rpm high output turbofan should be used instead of a 1000-rpm high output turbofan.

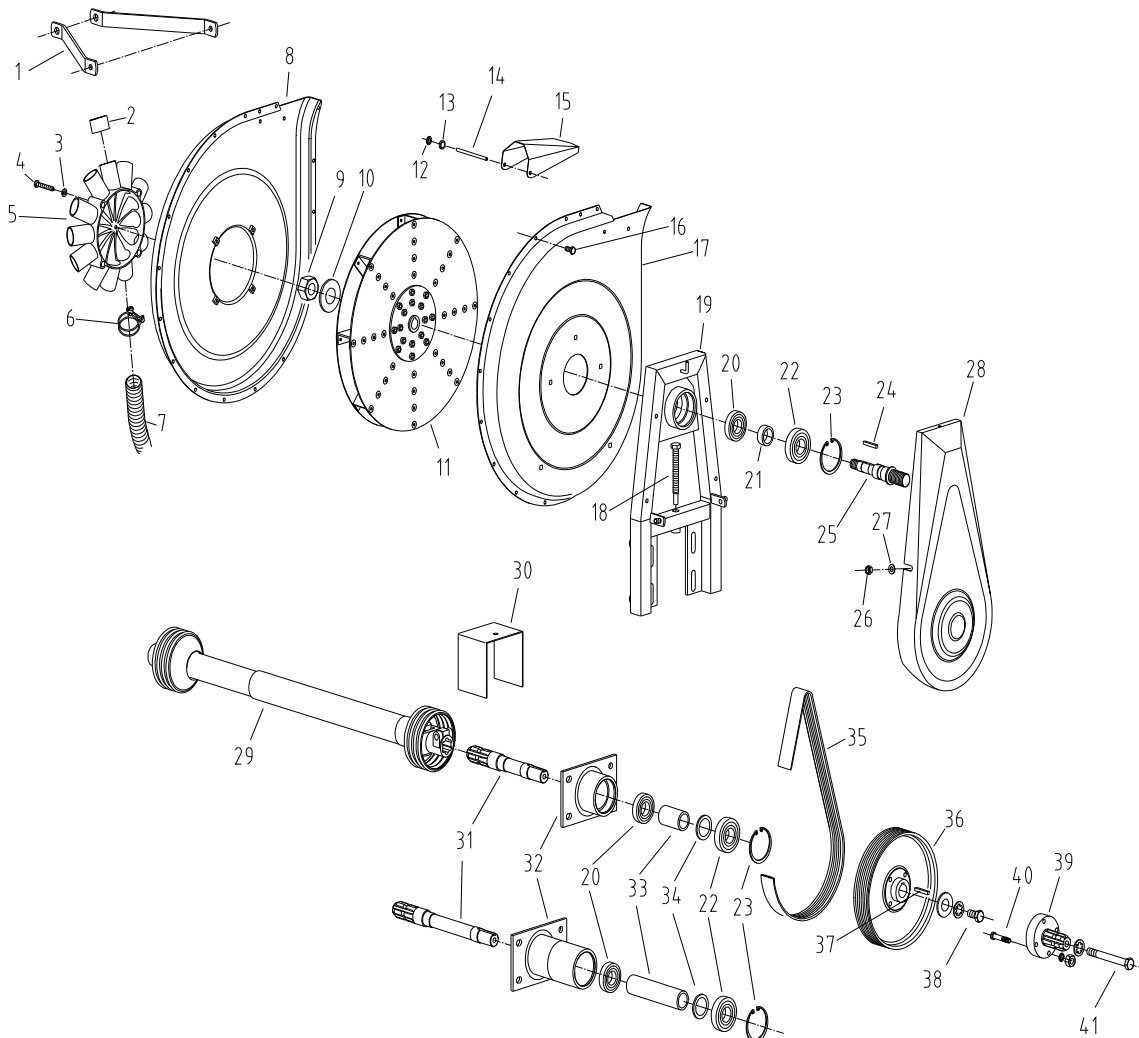
An extended shaft (#4405.A2) is used for planters with 7" X 7" mounted toolbar frames and PTO drive, to provide more room for the PTO.

The vacuum hose is attached to the outlets on the front of the turbofan and deliver suction to the metering box of each unit. An arrow decal sticker on the turbofan indicates the direction that the turbofan blade runs, which is counter clockwise. A shield to protect the turbofan from the rain is located at the top of the turbofan, and when in a raised position, indicates that the turbofan is operating.

Note: Before planting, make sure that the support straps (1) are tight to eliminate any vibrations of the turbofan.

A vacuum gauge may be mounted to the turbofan.

ASSEMBLY




DRIVE


PTO Drive

(Power Take Off)

The PTO connects the tractor to the turbofan.

 Make sure you connect the proper end of the PTO to the tractor. An arrow on the PTO indicates the end that is attached to the tractor.

The following warning is placed on your PTO shaft for your safety.

 **DANGER** Rotating drive line contact can cause death – keep away. Do not operate without all driveline, tractor and equipment shields in place, without drivelines securely attached at both ends, and without driveline shields that turn freely on driveline.



High Output Turbofan 500 & 1000 RPM

ASSEMBLY

PART	DESCRIPTION	PART	DESCRIPTION
1	4532 Support strap – 565mm long (22 1/4")	29	4428.B PTO drive shaft 540 rpm, 24" long
	4532.1 Support strap – 340mm long (13 3/8")		4431.B PTO drive shaft 540 rpm, 36" long
	4532.2 Support strap – 480mm long (18 7/8")		PTO drive shaft HD 1000 rpm 20 spline
2	4451 Plastic cap	30	4434.3 Safety shield
3	10620064 Washer 8.5x16x2mm	31	4405.A Lower shaft (1 3/8" 6-spline)
4	10511062 Bolt, M8x55 (to secure manifold)		4405.A2 Extended shaft 7X7 toolbar w/PTO
5	4450 12-hole manifold	32	4404.A Shaft Housing (lower drive shaft)
6	4453 Hose clamp		Extended housing 7X7 toolbar w/PTO
7	4454 Vacuum hose 40mm ID (specify length)	33	4411 Spacer bushing (lower shaft)
8	4402.C Fan Housing, (manifold Side)		4411.2 Long bushing 7X7 toolbar w/PTO
9	NM-72005 Lock nut, M20 (to secure fan blade)	34	10624018 Washer, 31x41x3mm
10	10623042 Washer, 22.5x48x3mm	35	4413.B Belt, 500 rpm (1244J25)
11	4403.D Fan Blade (aluminum, 17 3/4" Dia.)		4413.1B Belt, 1000 rpm (991J25)
12	6090 Snap ring (6mm)	36	4412.B Pulley, 500 rpm (11 3/8" Dia.)
13	6089 Rubber ring		4412.1B Pulley, 1000 rpm (5 7/8" Dia.)
14	4455 Pin for outlet shield	37	4437 Key stock for lower shaft (8x7x40mm)
15	4429.A Outlet shield	38	HM-61230 Bolt, M12x30 (to secure pulley)
16	10500091 Hex bolt M6x12		10621061 Washer, 13x40x4mm (to secure pulley)
17	4401.B Fan Housing, (support frame side)		10101012 External tooth lock washer (12x20mm)
18	4440 Belt tension adjustment bolt	39	4426 Pump pulley (6 spline stub shaft)
19	4400.1A Support Frame	40	HM-2850 Bolt M8x50
20	4407 Bearing 62mm (62062RS)		External tooth lock washer (8x14mm)
21	4410.A Spacer bushing (upper shaft)	41	10629009 Bolt, M12x110
22	4408 Bearing 72mm (63062RS)		External tooth lock washer (12x20mm)
23	4409 Snap ring, internal (72mm)		
24	4439.A Key stock for upper shaft (6x6x45mm)		
25	4452.B Upper shaft (1 1/8" Dia. Pulley)		
26	NM-21015 Lock nut M10		
27	10620089 Washer 10.5x20x2mm		
28	4414.1A Cover shield for belt		

DRIVE

Extra High Output Turbofan 540 & 1000 RPM With PTO Drive

The extra high output turbofan was designed to provide more volume of air than the standard or high output turbofan. The extra high output turbofan is most often used with planters of 16 rows or more.

The extra high output turbofan can be used with either a PTO or a hydraulic motor. When using a PTO, this turbofan requires a PTO with an overrunning clutch. When using a hydraulic motor, this turbofan requires a larger motor.

The vacuum hose is attached to the outlets on the front of the turbofan and deliver suction to the metering box of each unit. An arrow decal sticker on the turbofan indicates the direction that the turbofan blade runs, which is counter clockwise. A shield to protect the turbofan from the rain is located at the top of the turbofan, and when in a raised position, indicates that the turbofan is operating.

A vacuum gauge may also be mounted to the turbofan.

PTO DRIVE (Power Take Off)

The PTO connects the tractor to the turbofan.



Make sure you connect the proper end of the PTO to the tractor. An arrow on the PTO indicates the end that is attached to the tractor.

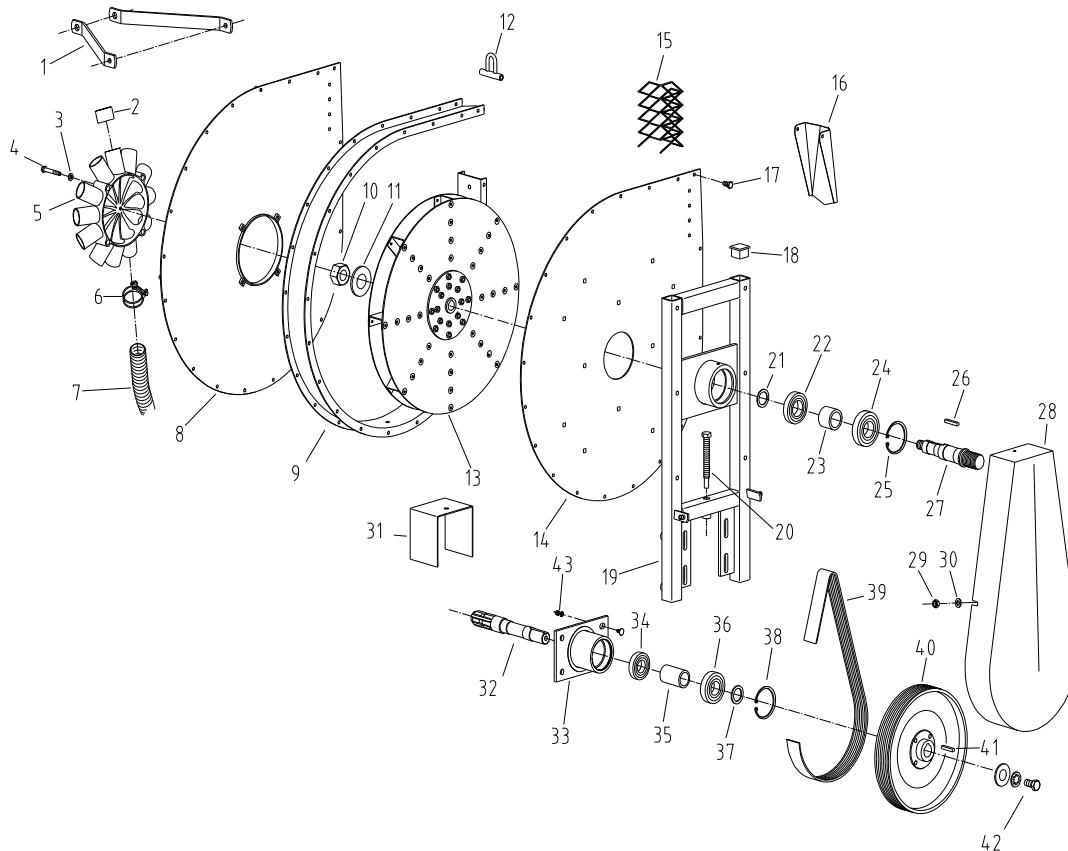
The following warning is placed on your PTO shaft for your safety.



DANGER Rotating drive line contact can cause death – keep away. Do not operate without all driveline, tractor and equipment shields in place, without drivelines securely attached at both ends, and without driveline shields that turn freely on driveline.



ASSEMBLY



DRIVE

**Extra High Output Turbofan 540 & 1000 RPM
 With PTO Drive**

ASSEMBLY

ITEM	PART No.	DESCRIPTION
1	4532.2	Turbofan support strap - 480mm long (18 7/8")
2	4451	Plastic cap, 40mm
3	10620064	Washer 8.5x16x2mm
4	10511062	Hex bolt M8x55
5	4450	12 hole manifold
6	4453	Hose clamp
7	4454	Vacuum hose (40mm ID, specify length)
8	4242	Fan housing (manifold side)
9	4243	Fan housing sidewall
10	NM-72005	Nylon locknut, 20mm (to secure fan blade)
11	10623042	Washer 22.5x48x3mm
12	4253	Support eye
13	4244.co	Fan blade, aluminium 19 5/8" dia.
14	4241	Fan housing (support frame side)
15	4254	Screen
16	4429.a	Outlet shield
17	10500091	Hex bolt M6x12
18	9525	End cap
19	4240	Support frame
20	4440	Bolt to adjust belt tension
21	10624016	Washer, 31x41x2mm (on upper shaft)
22	4251	Bearing upper shaft (62072RS1)
23	4247	Spacer bushing (upper shaft)
24	4252	Bearing upper shaft (63072RS1)
25	4246	Snpring, internal (80mm)
26	4439.A	Key stock for upper shaft (6x6x45mm)
27	4248.1	Upper shaft, 25 grooves (35mm O.D.)
28	4250	Cover shield for belt
29	NM-21015	Lock nut M10
30	1062089	Washer 10.5x20x2mm
31	4434.3	Safety shield
32	4405.a	Lower shaft (w/1 3/8" 6 spline adapter)
33	4404.a	Shaft housing (lower drive shaft)
34	4407	Bearing 62mm (62062RS)
35	4411	Spacer bushing (lower shaft)
36	4408	Bearing 72mm (63062RS)
37	10624018	Washer, 31x41x3mm (on lower shaft)
38	4409	Snpring, internal (72mm)
39	4249.2	Belt, 540 rpm 25 grooves (1335J25)
	4249.3	Belt, 1000 rpm 25 grooves
40	4412.B	Lower pulley, 540 rpm 25 grooves (290mm)
	4412.1B	Lower pulley, 1000 rpm 25 grooves (150mm)
41	4437	Key stock for lower shaft (8x7x40mm)
42	HM-61230	Hex bolt M12x30
	10621061	Washer 13x40x4mm
	10101012	Lock washer 12x20mm

DRIVE

Hydraulic Drive

Optional for 450 Standard, 500 High Output, or 540 Extra High Output Turbofans

An optional hydraulic drive for the 450 Standard turbofan, the 500 High Output turbofan and the 540 Extra High Output turbofan is available. The hydraulic drive attaches to the turbofan to produce and maintain the vacuum level.

The desired vacuum is dependent on the correct amount of oil flow to the hydraulic motor. Starving the motor of oil will cause the vacuum to drop. An excessive amount of oil flowing into the motor can result in damage to the motor or the fan blade. When attempting to shut off the turbofan, the blade must be allowed to "wind down" slowly. If the flow of oil stops abruptly, the bypass block on the motor will re-circulate the oil already in the motor helping to prevent damage to the blade and motor. Still, you should not allow the flow of oil to stop suddenly.

This is accomplished with the tractor hydraulic controls. Refer to your tractor operator manual for further information.

Controlling oil flow to the motor can be done in one of two ways: (1) with a flow control valve that is optional for the hydraulic motor, or (2) with the tractor hydraulic system controls.

If your tractor has flow control capabilities, then it is recommended that you use this method and remove the in-line flow control valve. Failure to do this will cause the hydraulic oil to overheat, damaging the motor.

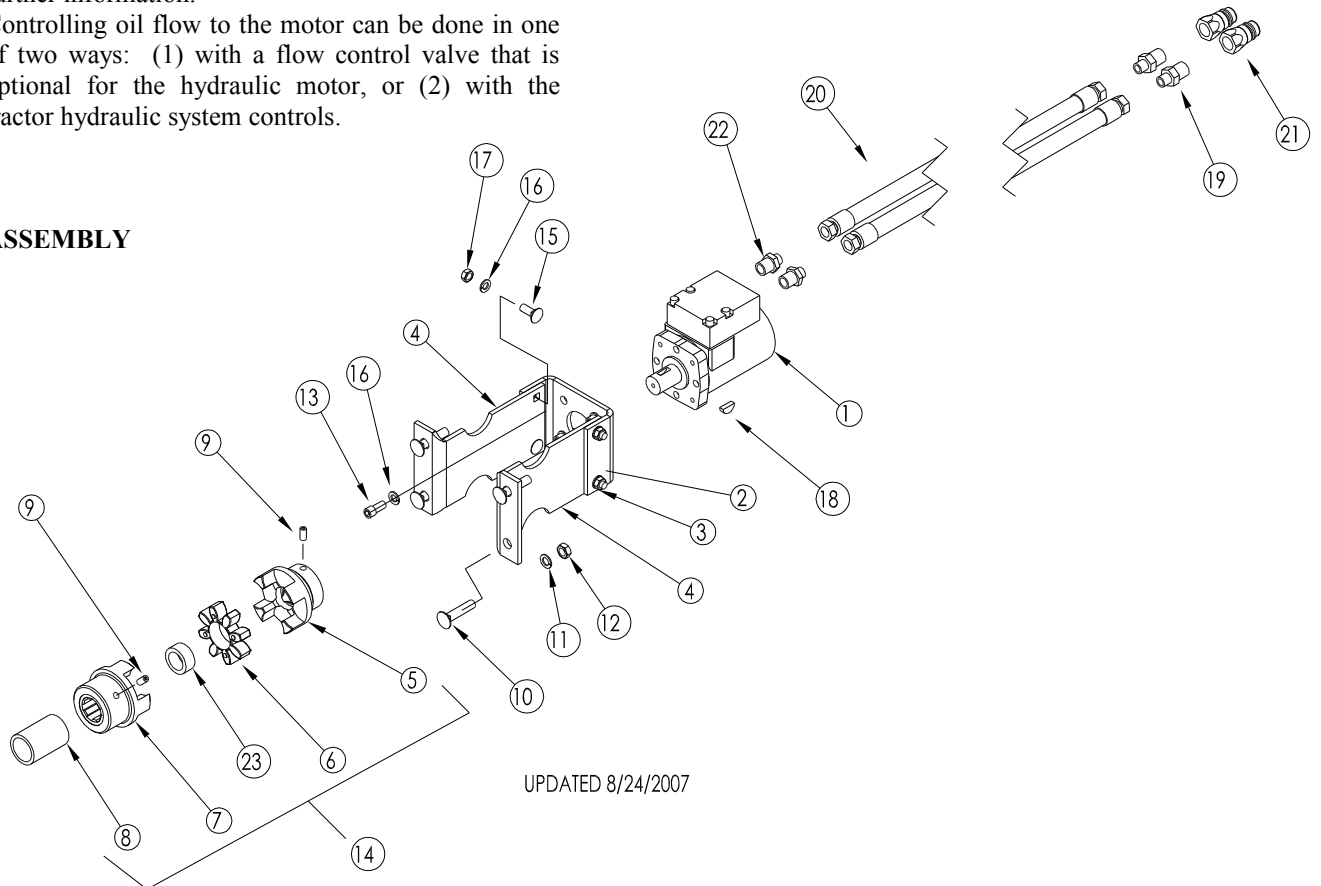
Oil requirements are as follows:

Regular & high output turbofans: 6-7 gal/ minute

Extra high output turbofans: 7-8 gal/minute

NOTE: Check the labeling on your turbofan to determine if you have a standard, high output or extra high output turbofan. As a general rule, planters with 8-15 rows have a high output turbofan, 16-rows and larger use an extra high output turbofan.

ASSEMBLY



DRIVE

Hydraulic Drive

ASSEMBLY

**Hydraulic Drive
 For Standard, High Output, and Extra High Output Turbofan**

PART No.	DESCRIPTION
1	FTA0232 HYDRAULIC MOTOR WITH BYPASS BLOCK F101-1017 HYDRAULIC MOTOR ONLY (NO BYPASS BLOCK) FP10270-2 BYPASS BLOCK ONLY, WITH HARDWARE F60540 SEAL KIT
2	M1000 BOLT TOGETHER MOTOR MOUNT, COMPLETE
3	800320 MOTOR MOUNT FRONT CAP
4	800321 MOTOR MOUNT LEG
5	5042 FAN COUPLER, MOTOR SIDE
6	5041 FAN COUPLER RUBBER SPIDER
7	5040 FAN COUPLER, FAN SIDE
8	5038 SHAFT SPACER, 33mm ID X 42mm OD X 45mm
9	10591915 HEX ALAN SCREW, M18x16
10	CB-3322 CARRIAGE BOLT 7/16" X 2"
11	W-3610 LOCK WASHER 7/16"
12	N-3000 NUT 7/16"
13	F23305 HEX SOCKET CAP SCREW, 3/8" X 1"
14	640926 FAN COUPLER ASSEMBLY
15	CB-2210 CARRIAGE BOLT 3/8" X 1"
16	W-2610 LOCK WASHER 3/8"
17	N-2000 NUT 3/8"
18	F14193 WOODRUFF KEY
19	J2404-8-8 HYDRAULIC FITTING
20	11459.15A HYDRAULIC HOSES, 5' WITH AMERICAN FITTINGS
21	900273 HYDRAULIC COUPLER, MALE
22	J6400-8 HYDRAULIC FITTING, MOTOR END

DRIVE

Vacuum Gauge - Standard for Hydraulic Drive, Optional for PTO Drive

VACUUM GAUGE SETTINGS

The hydraulic drive is equipped with a vacuum gauge that allows you to read the vacuum level of the turbofan. The vacuum level should be set depending on the weight and size of the seed to be planted. Vacuum gauge settings for the hydraulic drive are shown below in inches of water column. This is a guideline for small, medium and large seed.

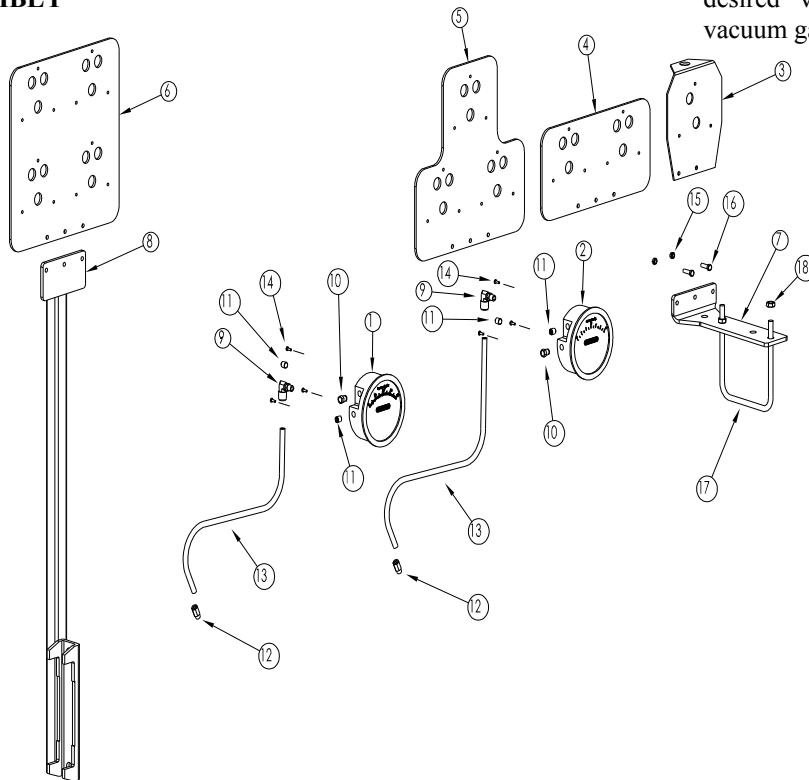
Small (Sugarbeet/Pickle)	15"-20"
Medium (Corn)	20"-25"
Large (Beans/Peanut)	25"-30"

To set the vacuum level:

It is not necessary to have to reset vacuum levels daily. Vacuum levels will be slightly lower during tractor and pump start-up.

1. Use the recommended vacuum settings above, or consult your dealer.
2. Push tractor lever/switch to start oil flow to hydraulically driven turbofan and let oil warm up.
3. With some seed in the hoppers, turn drive wheels by hand or lower planter to engage drive wheels and drive forward a short distance to fill cells on seed discs with seed. This will result in a more accurate setting of the vacuum.
4. Re-adjust the oil flow, if necessary, until the desired vacuum level is obtained on the vacuum gauge.

ASSEMBLY



ITEM No.	PART No.	DESCRIPTION
1	D2040	Vacuum gauge
2	900389	Pressure gauge
3	M30050070	Mounting plate single
4	800187	Mounting plate double
5	800148	Mounting plate triple
6	800149	Mounting plate quadruple
7	800311	Panel mount mounted pltr.
8	80036	Panel mount pull type pltr.
9	J69PPS-4-2	Swivel elbow fitting
10	D200108-00	Filter vent plug

ITEM No.	PART No.	DESCRIPTION
11	A-330	Pipe plug 1/8" NPT
12	J68PP-4-2	Swivel fitting
13	JPT04	Tubing 1/4"
14	F27295	Screw 6-32 x 3/8"
15	NM-0605	Nylon lock nut, 6mm
16	HM-0620	Bolt 6 x 20 mm
17	4647.SS	U-bolt 5"x5"x3/8"-16
	4647.S	U-bolt 7"x7"x3/8"-16
	900240	U-bolt 5"x7"x3/8"-16
18	N-2100	Nylon lock nut 3/8 -16