

Installation Instructions



3-Point Precision Seeding System Veris Drive Option

Used with:

- 1510P and 1520P
- 2010P and 2020P
- 2410P and 2420P



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

General Information

These instructions explain how to install the Veris Drive Option. *The Veris Drive is a precision population controller which uses a hydraulic drive to accurately drive the metering system.*

These instructions apply to:

120-296A Veris Drive (for no-till drills hooked to a CPH or PFH and features longer hoses and cables)

120-297A Veris Drive (for mounted drills hooked directly to the tractor's 3PT hitch and features shorter hoses and cables)

Manual Update

Refer to the 3-Point Precision Seeding System operator's manual for detailed information on safely operating, adjusting, troubleshooting and maintaining the Veris Drive. Refer to the parts manual for part identification.

118-732M	Operator's Manual
118-732P	Parts Manual
118-740M	Operator's Manual
118-740P	Parts Manual
118-769M	Operator's Manual
118-769P	Parts Manual

Before You Start

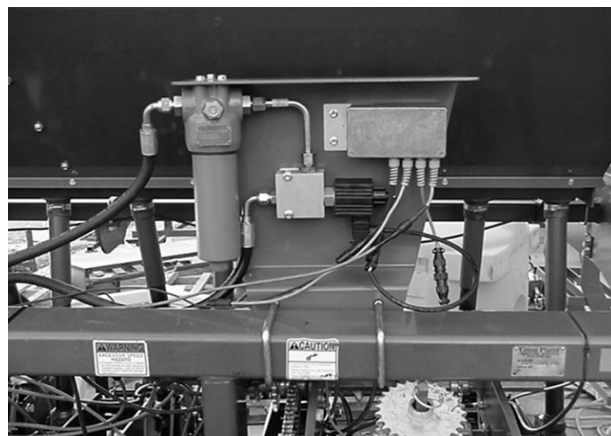
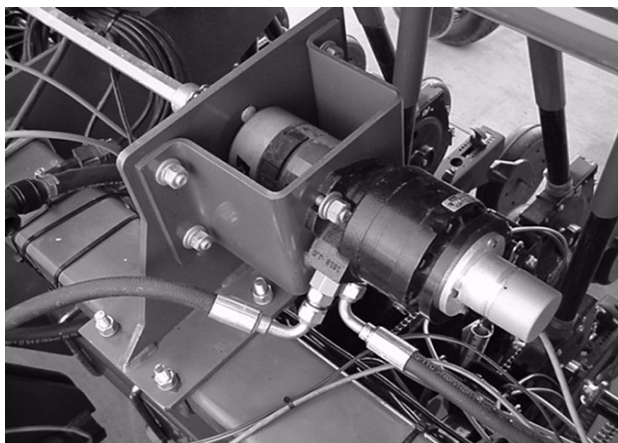
Pages 7 and 8 are a detailed listing of parts included in the Veris Drive Option package. Use this list to inventory parts received.

Tools Required

- Basic Hand Tools

Definitions

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.



Assembly Instructions

CAUTION!

Before installing the Precision Population Controller on the seeding system, be sure the unit is properly supported to avoid injury during installation.

If the 3-Point Precision Seeding System is attached to a Precision Hitch, it will be best to remove it for easier access to the 3-point frame and drive components.

Refer to Figure 1

1. Remove drive chain from upper rear shaft to line shaft on both the right-hand and left-hand drive.
2. Remove the drive speed range chain from both the right-hand and left-hand drive.

Note: If Microband is installed disregard step 2.

Refer to Figure 2

3. Install both drive brackets on the upper main frame tube using U-bolts provided in the option kit.

Refer to Figure 3

Measure from the centerline of the drill to the center of the drive bracket. Use the charts at the bottom of page 3 to determine the correct dimensions for your drill spacing.

Refer to Figure 2

4. Install bearings on both drive brackets with bearing, flangettes and the threaded ends of carriage bolts pointed toward the center of the unit. Do not tighten until all hardware is in place.

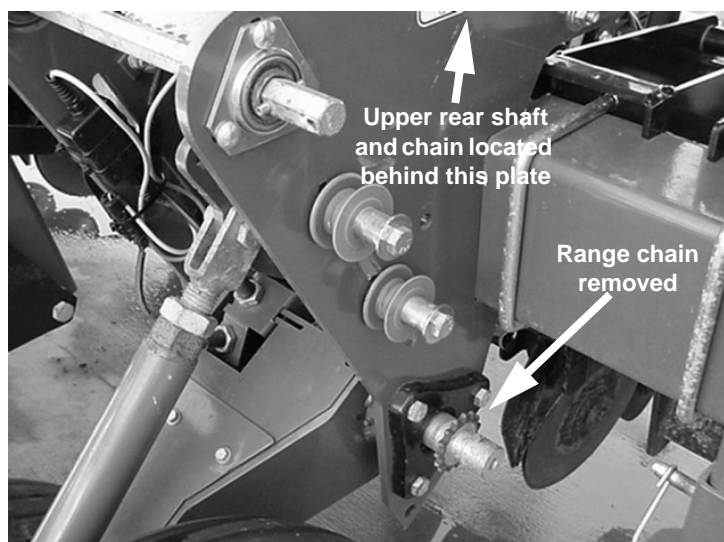


Figure 1
Range Chain Drive

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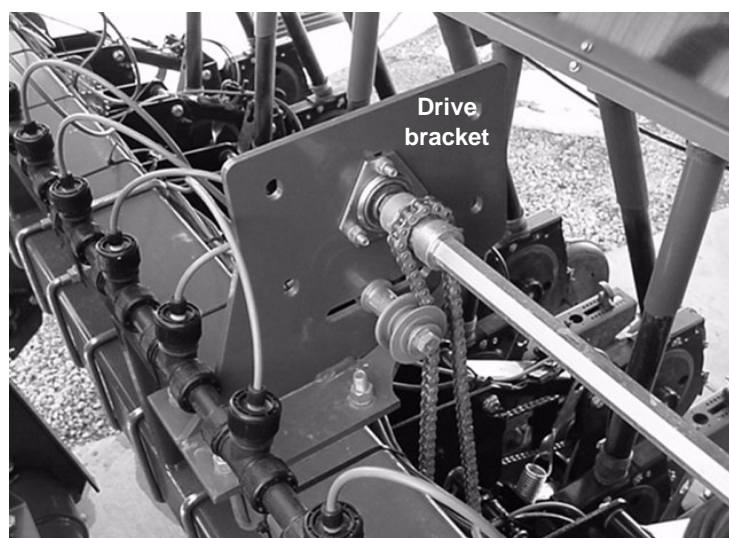


Figure 2
Drive Bracket

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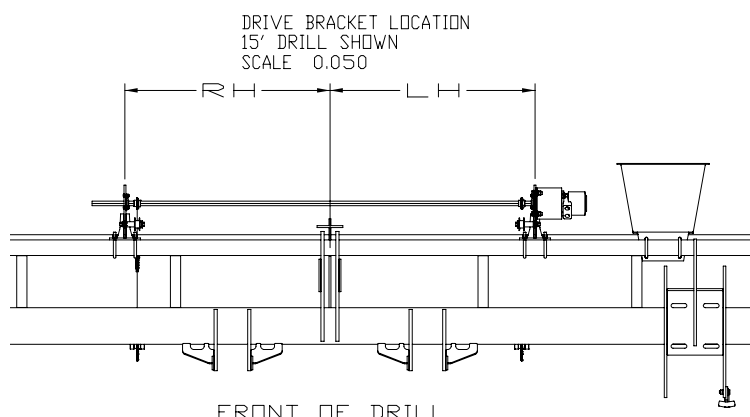


Figure 3
Dimensions

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Refer to Figure 4

5. Install one roll pin in the outside hole of the shaft, then slide the 7/8" hex drive shaft part-way through the left-hand drive bracket. Slide all lock collars and 12 tooth sprockets on the shaft then slide into other bearing. Tighten bearings and push shaft to the left until the roll pin contacts the left-hand bearing and install the second roll pin.
6. Slide 7/8" coupler with square key onto shaft and leave loose. Install rubber coupler. Install motor adapter using 1/2" bolts provided in the kit, leaving bolts loose.
7. Install 1" bore coupler and square key onto the motor. Install motor on the motor adapter. Align couplers, making sure they can be easily slid together, then tighten adapter. After tightening adapter, slide couplers together and position them so they are centered in the adapter, then tighten the coupler set screws.

Refer to Figure 5

8. Line up the center of the left-hand and right-hand sprockets in accordance with the table below and tighten the lock collars.

Spacing	Chain Center	
	LH	RH
7.5"	2 1/2"	2 1/4"
10"	2 1/2"	2 1/4"
15"	2 1/2"	2 1/4"

Note: Measure from the face of the bracket to the center of the sprocket (chain).

9. Install chain idler tube, idlers and fasteners.

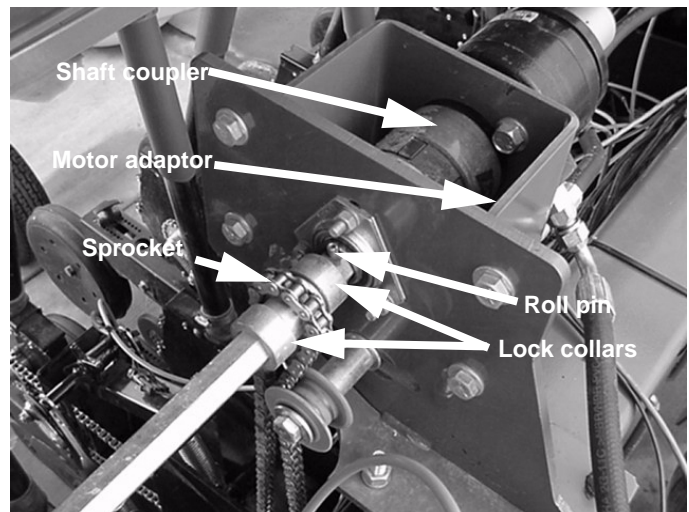


Figure 4
Motor Shaft

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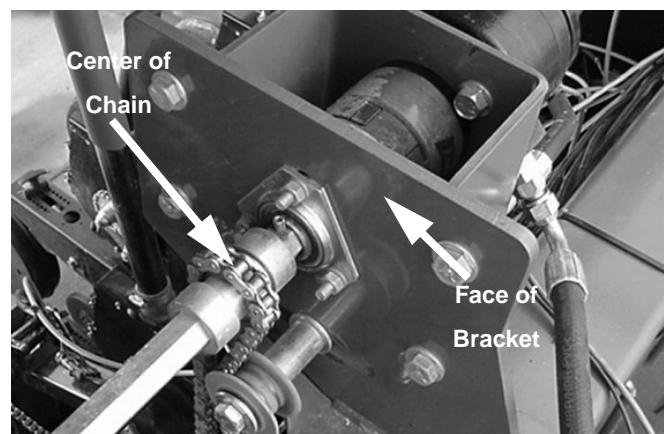


Figure 5
Sprocket Centering

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15P Spacing	Bracket (center)	
	LH	RH
7 1/2"	32 9/16"	47 1/2"
10'	32 9/16"	42"
15"	35"	45"
Twin Row	34"	47 1/2"
Twin Row*	34"	55"

*2003 Model Year S/N: 10682C and above

20P & 24P Spacing	Bracket (center)	
	LH	RH
7 1/2"	47 1/2"	47 1/2"
10'	42"	42"
15"	47"	36"
Twin Row	47"	34"
Twin Row*	40"	34"

*2003 Model Year 20' S/N: 7055B and above
24' S/N: FF1194 and above

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Refer to Figure 6

10. Loosen the lock collar on the line shaft sprocket and pull each line shaft out until the shaft allows access between the two openers below the sprockets installed in step 5. Slide each 36 tooth sprocket and lock collar onto the shaft and return the shaft to its original position.

Note: For 7 1/2" spacing, slide the 36 tooth sprocket tight against the bearing and lock the collar in place with set screws.

For 10" and 15" spacing align the 36 tooth sprocket with the sprocket above it, and hold in place with a lock collar on each side.

Important: Remember to retighten the lock collars at the end of the drill.

Refer to Figure 7

11. Install both drive chains and tighten with the idler on the front side of chain.

Refer to Figure 8

12. Install the control module on the top tube of 3-point mainframe using 1/2" x 3" x 4" U-bolts. Locate the module so that the inside U-bolt measures 54 3/4" from the center of the frame on 15' drills and 68 1/4" on 20' and 24' drills.

Note: The marker storage post (if equipped) may need to be moved out board on the frame to clear the control module.

13. Connect the 28" hose from the control valve block to the motor. Connect the cable from drive motor encoder to the controller cable.

Note: All connectors are specific so no incorrect connections can be made.

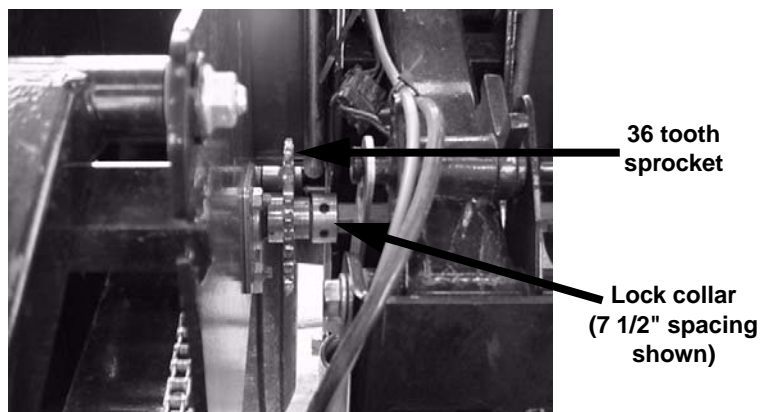


Figure 6
Line Shaft Sprocket

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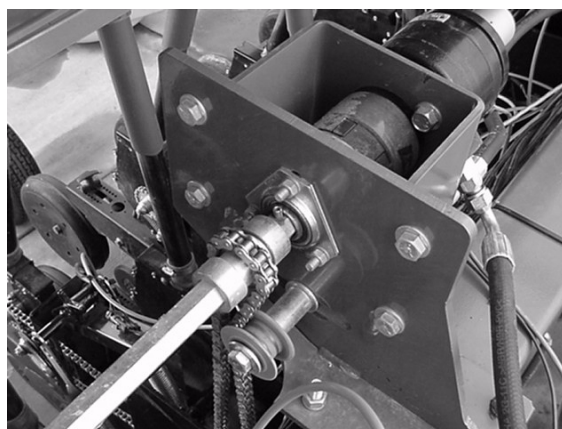
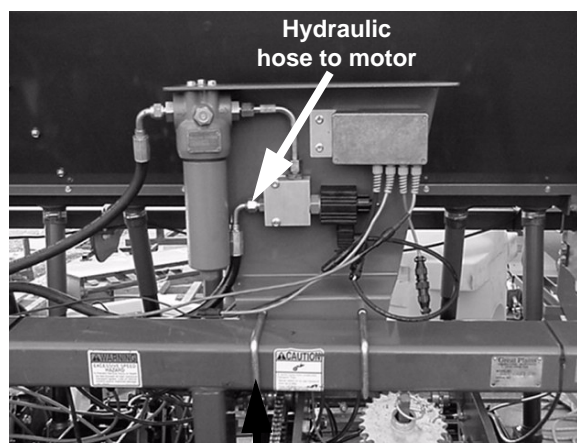


Figure 7
Drive Chain

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Measure from center of frame
Figure 8
Control Module

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Refer to Figure 9

14. Install speed sensor on sensor U-mount bracket on the left-hand gauge wheel. Adjust to within .030 clearance of sensor disk and snugly tighten jam nut.

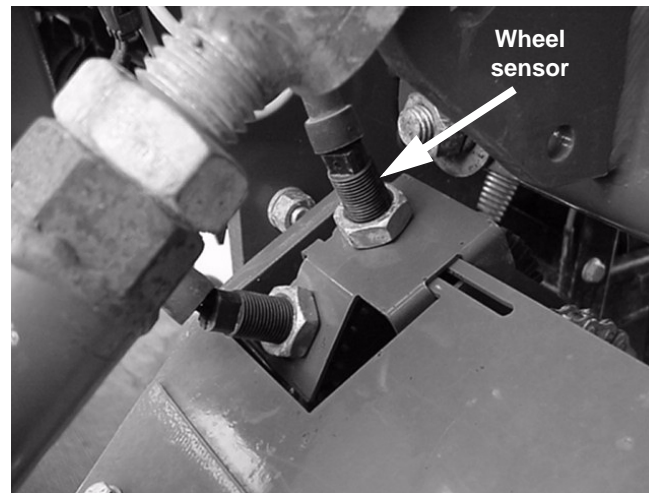


Figure 9
Speed Sensor

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Refer to Figure 10

15. Install the sensor module to the gauge wheel bracket with black cable ties provided with kit. Connect short cable to the wheel sensor and route the long cable to the control module. Connect the cable to the controller (you may need to coil some extra cable on the 15' models), then secure with cable ties.
16. Uncoil the main harness from the control module and route it with the hydraulic hoses along the hitch to the tractor. Secure as needed with cable ties. Install the plastic hose label to the hoses with "extension" symbol on hose running to the filter (marked P) on the control module. Use the yellow cable tie to identify this as a motor hose. Attach the motor return hose (marked T) on the side showing the "retraction" symbol. Run tie strap through the number which will correspond to the valve 2 through 4 which the drive will be connected to.



Figure 10
Sensor Module

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**WARNING!**

Escaping fluid under pressure can have sufficient pressure to penetrate the skin. Check all hydraulic lines and fittings before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, and wear heavy gloves to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

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Refer to Figure 11

17. Install the console in a convenient location on a side window glass. Make sure the glass is clean. Moisten cups and press firmly onto the glass. To remove, pull tab on suction cup.
18. Connect power port adaptor cable to the terminal on the console.
19. Route the power and communication cables through the cab access hole and connect to the appropriate terminals on the console.



Figure 11
Controller Console

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Refer to Figure 12

A gauge wheel brake has been added to keep the gauge wheel from “free wheeling” when the drill is raised causing the Veris Drive to operate.

1. With the drill hooked to the tractor, raise the drill. Make sure the tractor is on level ground. Place tractor in park, turn off ignition and remove the key.
2. Working at the left-hand gauge wheel, make sure the gauge wheel is in its full down position. Position gauge wheel brake (1) on the inside of gauge wheel frame at the hole (2) indicated. Assemble brake to the frame using a 1/2" x 1 3/4" bolt, 1/2" flat washer, 1/2" lock washer and 1/2" nut.
3. Adjust the brake so it rest firmly against the gauge wheel tire and tighten bolt.

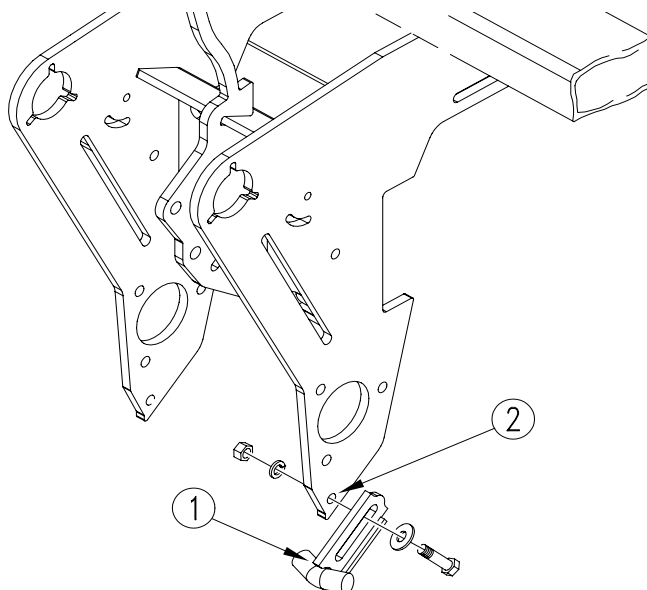


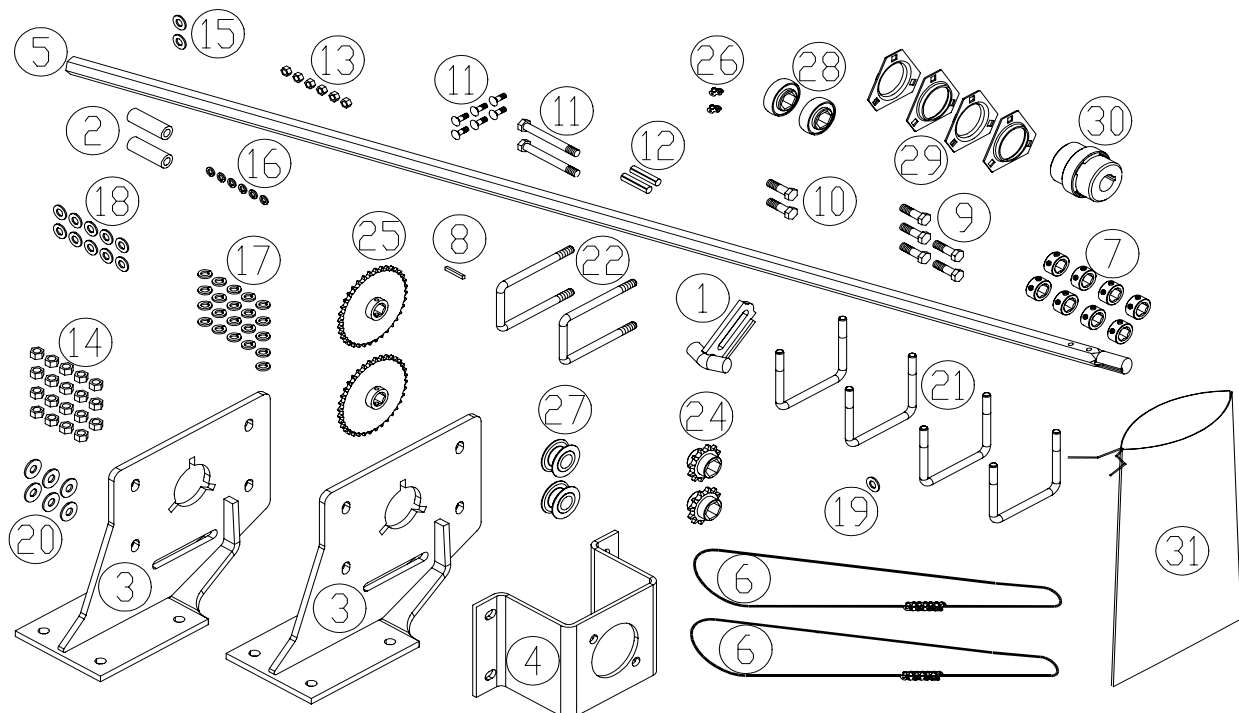
Figure 12
Gauge Wheel Brake

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120-296A 15P-20P VERIS VARI-RATE NO-TILL

Your kit includes:

Ref.	Qty.	Part No.	Part Description
1	1	120-211H	GAUGE WHEEL BRAKE
2	2	120-293D	TUBE RND DOM. 1 OD X 7/32W
3	2	120-294H	DRIVE BRACKET
4	1	120-319D	MOTOR ADAPTOR SAE A 2 BOLT
5	1	120-320D	SHAFT 7/8 HEX VARI DRIVE 1
6	2	136-157D	CHAIN RL #40 135 PITCHES
7	8	402-025S	LOCK COLLAR, 7/8 HEX W/ SE
8	1	800-296C	KEY 3/16 X 7/8
9	5	802-082C	HHCS 1/2-13X1 3/4 GR5
10	2	802-091C	HHCS 1/2-13X1 1/2 GR5
11	6	802-282C	RHSNB 5/16-18X1 GR5
12	2	802-672C	HHCS 1/2-13X4 1/2 GR5 SPTH
13	6	803-008C	NUT HEX 5/16-18 PLT
14	19	803-020C	NUT HEX 1/2-13 PLT
15	2	803-036C	NUT HEX JAM 1/2-13 PLT
16	6	804-009C	WASHER LOCK SPRING 5/16 PL
17	21	804-015C	WASHER LOCK SPRING 1/2 P
18	10	804-016C	WASHER FLAT 1/2 SAE PLT
19	1	804-017C	WASHER FLAT 1/2 USS PLT
20	6	804-113C	WASHER FLAT 1/2 USS HARD P
21	2	805-180C	PIN ROLL 1/4 X 1 1/2 LG PLT
22	2	806-122C	U-BOLT 1/2-13 X 3 1/32 X 6
23	4	806-159C	U-BOLT 1/2-13 X 5 1/32 X 4
24	2	808-219C	SPKT 40C12 X 7/8 HEX BORE
25	2	808-251C	SPKT 40C36 X 7/8 HEX BORE
26	2	809-070C	CHAIN CONNECTOR LINK #40 OFFST
27	2	817-406C	IDLER 1 PC 2.38X1.01X1.062
28	2	822-119C	BRG.7/8HEX BR 52MM SPHRICA
29	4	822-175C	FLANGETTE 52 3-BOLT PLT
30	1	826-350C	CONEFLEX COUPLING #3R 1BX7/8B
31	1	833-200C	DJ MAGNETIC PICKUP
32	1	833-248C	VERIS PPC-15-20N NT CONTROLLER



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120-297A 15P-20P-24P VERIS VARI-RATE MT

Your kit includes:

Ref.	Qty.	Part No.	Part Description
1	1	120-211H	GAUGE WHEEL BRAKE
2	2	120-293D	TUBE RND DOM. 1 OD X 7/32W
3	2	120-294H	DRIVE BRACKET
4	1	120-319D	MOTOR ADAPTOR SAE A 2 BOLT
5	1	120-320D	SHAFT 7/8 HEX VARI DRIVE 1
6	2	136-157D	CHAIN RL #40 135 PITCHES
7	8	402-025S	LOCK COLLAR, 7/8 HEX W/ SE
8	1	800-296C	KEY 3/16 X 7/8
9	5	802-082C	HHCS 1/2-13X1 3/4 GR5
10	2	802-091C	HHCS 1/2-13X1 1/2 GR5
11	6	802-282C	RHSNB 5/16-18X1 GR5
12	2	802-672C	HHCS 1/2-13X4 1/2 GR5 SPTH
13	6	803-008C	NUT HEX 5/16-18 PLT
14	19	803-020C	NUT HEX 1/2-13 PLT
15	2	803-036C	NUT HEX JAM 1/2-13 PLT
16	6	804-009C	WASHER LOCK SPRING 5/16 PL
17	21	804-015C	WASHER LOCK SPRING 1/2 P
18	10	804-016C	WASHER FLAT 1/2 SAE PLT
19	1	804-017C	WASHER FLAT 1/2 USS PLT
20	6	804-113C	WASHER FLAT 1/2 USS HARD P
21	2	805-180C	PIN ROLL 1/4 X 1 1/2 LG PLT
22	2	806-122C	U-BOLT 1/2-13 X 3 1/32 X 6
23	4	806-159C	U-BOLT 1/2-13 X 5 1/32 X 4
24	2	808-219C	SPKT 40C12 X 7/8 HEX BORE
25	2	808-251C	SPKT 40C36 X 7/8 HEX BORE
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29	4	822-175C	FLANGETTE 52 3-BOLT PLT
30	1	826-350C	CONEFLEX COUPLING #3R 1BX7/8B
31	1	833-200C	DJ MAGNETIC PICKUP
29	1	833-249C	VERIS PPC-15-24M MT CONTROLLER

