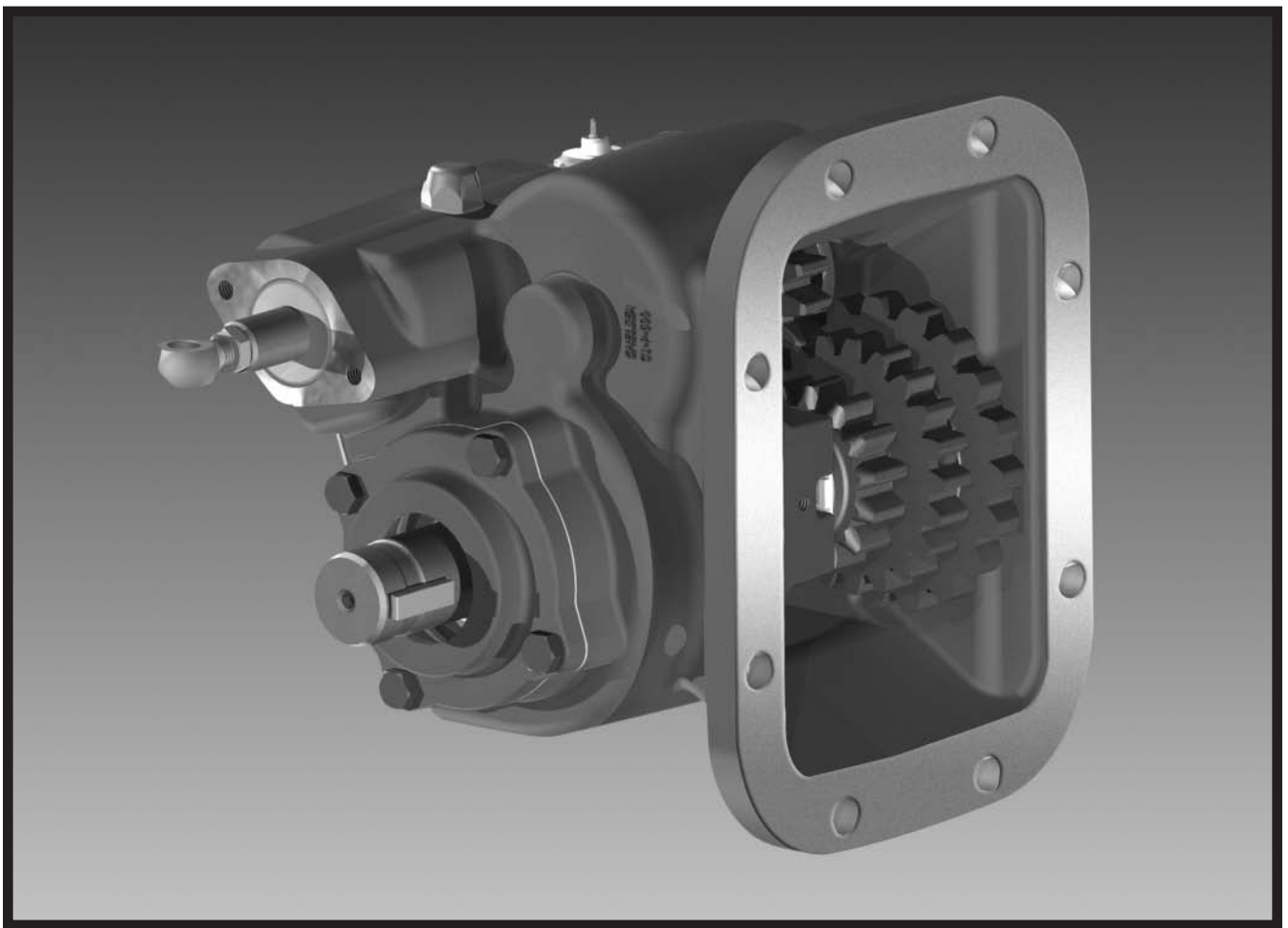


# Parts List 348 Series

Effective: November 15, 2013

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### **WARNING — User Responsibility**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

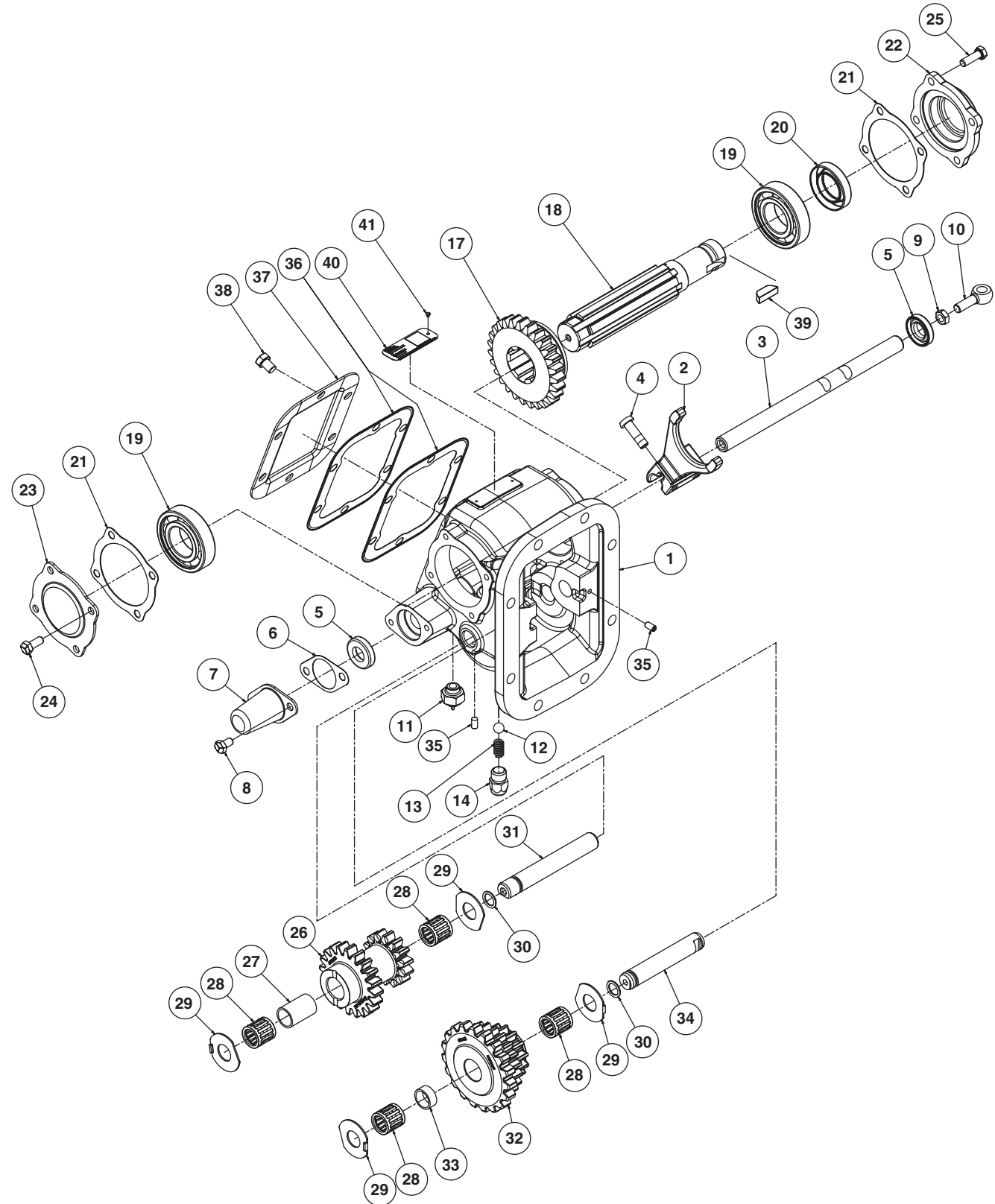
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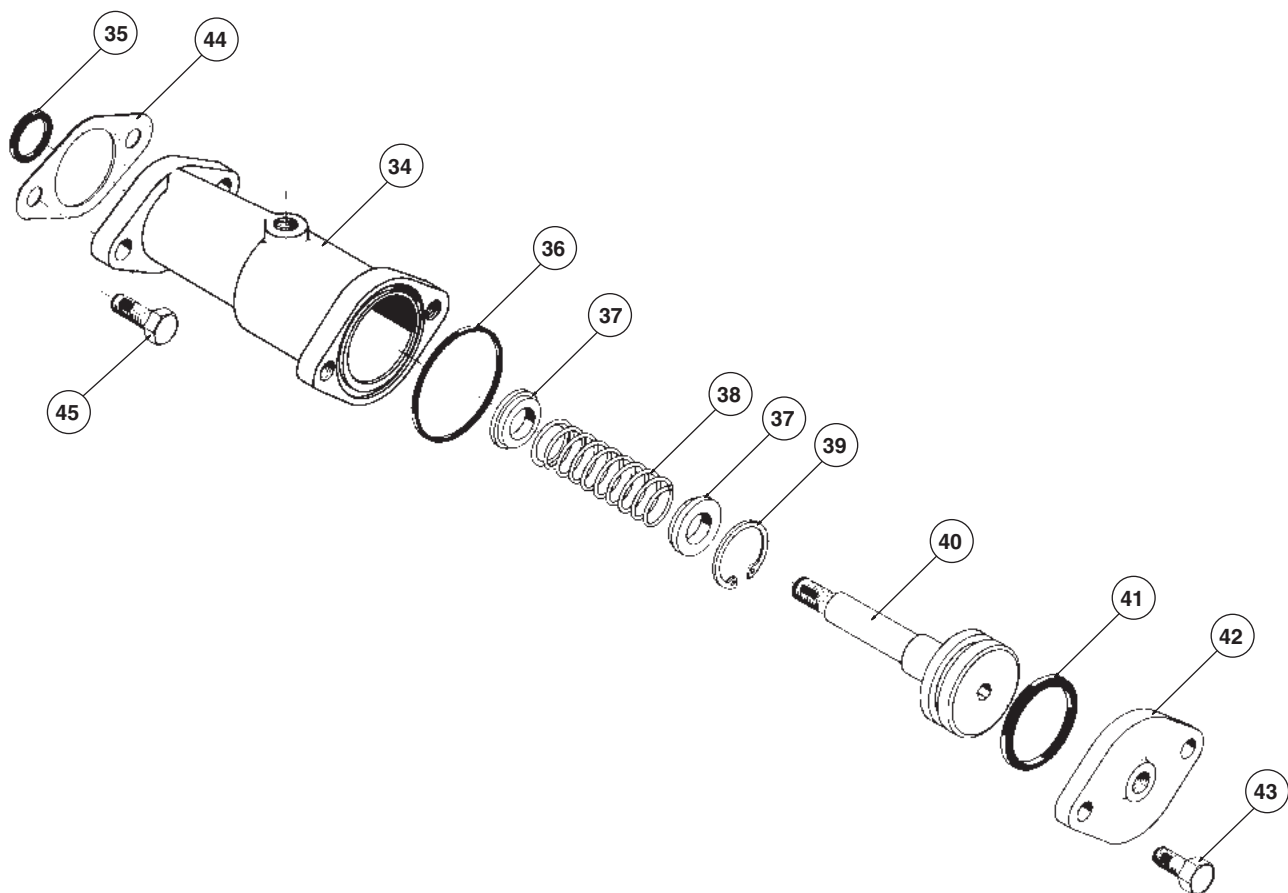
## Bill of Materials

Parts List  
348 Series

Item	Part Number	Description	Qty.
1	<b>1-P-700</b>	Housing ("X" Mounting Type) .....	1 or
1	<b>1-P-713</b>	Housing Deep Mount ("X" Mounting Type).....	1
2	<b>32-P-67</b>	Fork Shifter .....	1
3	<b>11-P-125</b>	Shaft Shifter .68" .....	1
4	<b>379687-12</b>	Capscrew BH .375" - 16 x 1.25" .....	2
5	<b>28-P-207</b>	Oil Seal 1.379" x .688" x .406" (Without Air Shift Option) .....	2 or
5	<b>28-P-207</b>	Oil Seal 1.379" x .688" x .406" (Air Shift "A", "G", "V" Only) .....	1
6	<b>35-P-14</b>	Gasket Shifter Cover (Without Air Shift Option).....	1 or
6	<b>35-P-14</b>	Gasket Shifter Cover (Air Shift "A", "G", "V" Only) .....	3
7	<b>65-P-23</b>	Cover Shifter Shaft 6-Bolt .....	2
8	<b>378430-4</b>	Capscrew HH .312" - 18 x .500" .....	2
9	<b>500381-3</b>	Hex Jamb Nut .375" - 24 ("Y" Shift Only) .....	1
10	<b>36-P-1</b>	Eye Bolt .375" - 24 ("Y" Shift Only ) .....	1
11	<b>379639</b>	Indicator Switch 6-Bolt 8-Bolt N.O.....	1
12	<b>378002</b>	Shifter Ball .437" ("Y" Shift Only ) .....	1
13	<b>37-P-41</b>	Spring .406" x 1.125" 6-Bolt 911 912 ("Y" Shift Only) .....	1
14	<b>378554</b>	Cap Poppet 6-Bolt Lever Shifter .....	1
15	<b>328911X</b>	Air Shifter Ass'y (A5, G4, V5 Only) .....	1 or
15	<b>328912X</b>	Air Shifter Ass'y (A4, G5, V4 Only) .....	1
16	<b>378430-9</b>	Capscrew HH .312" - 18" x .875" (Air Shift "A", "G", "V" Only) .....	2
17	<b>2-P-558</b>	Output Gear 27T .....	1
18	<b>3-P-763</b>	Output Shaft 1.25" Keyed .....	1
19	<b>550010</b>	Ball Bearing 1.378" x 2.8346" x .6693" .....	2
20	<b>28-P-224</b>	Oil Seal 2.066" x 1.250" x .433" .....	1
21	<b>22-P-71</b>	Bearing Cap Gasket .....	2
22	<b>21-P-641</b>	Bearing Cap .....	1
23	<b>21-P-46</b>	Bearing Cap .....	1
24	<b>378430-8</b>	Capscrew HH .312" - 18 x .750" .....	4
25	<b>378430-10</b>	Capscrew Hex .312" - 18 x 1.000" .....	4
26	<b>33-P-69</b>	Gear Reverse Idler 20T / 14T .....	1
27	<b>14-P-33</b>	Spacer .770" x .925" x 1.428" .....	1
28	<b>550890</b>	Bearing Needle Roller Ass'y .750" x 1.000" x 1.000" .....	4
29	<b>31-P-80</b>	Washer Thrust .770" x 1.750" x .061" .....	4
30	<b>28-P-191</b>	O-Ring .549" x .103" .....	2
31	<b>9-P-108</b>	Shaft Reverse Idler .75" .....	1
32	<b>See Gear Chart</b>	Input Gear .....	1
33	<b>14-P-32</b>	Spacer .770" x .925" x .384" .....	1
34	<b>9-P-102</b>	Idler Shaft .75" .....	1
35	<b>378452-7</b>	Set Screw SH .250" - 20 x .500" .....	2
36	<b>35-P-69</b>	Gasket Shim .....	2
37	<b>34-P-314</b>	Cover 6-Bolt .....	1
38	<b>378431-4</b>	Capscrew HH .375" - 18 x .500" .....	6
39	<b>500007-29</b>	Woodruff Key .....	2
40	<b>68-P-51</b>	Name Plate .....	1
41	<b>378422</b>	Drive Screw .....	2

Continued on Next Page

Item	Part Number	Description	Qty.
		<b>LOOSE PARTS</b>	
	328170-209X	Stud Kit ("X" and "Z" Option) .....	1 or
	7170-120X	Metric Stud Kit ("G" Option) .....	1 or
	See App Pages	Stud Kit ("K" Option) .....	1
	328948-8X	8-Bolt Gasket & Installation Instructions .....	1
	379640	Booted Connector ("V" Shifter) .....	1
	328388-40X	Air Shift Installation Kit ("A", "G" Shift) .....	1 or
	328751-1X	Wire or Lever Installation Kit ("Y" Shifter) .....	1 or
	378414	Pressure Protection Valve ("V" Shifter) .....	1
		<b>SERVICE KITS</b>	
	328390-92X	"A" or "G" Air Shift Conversion Kit	
	328390-153X	"V" Shift Conversion Kit	
	328594-30X	Kit, Bearing & Idler Shaft ("IT" Option)	

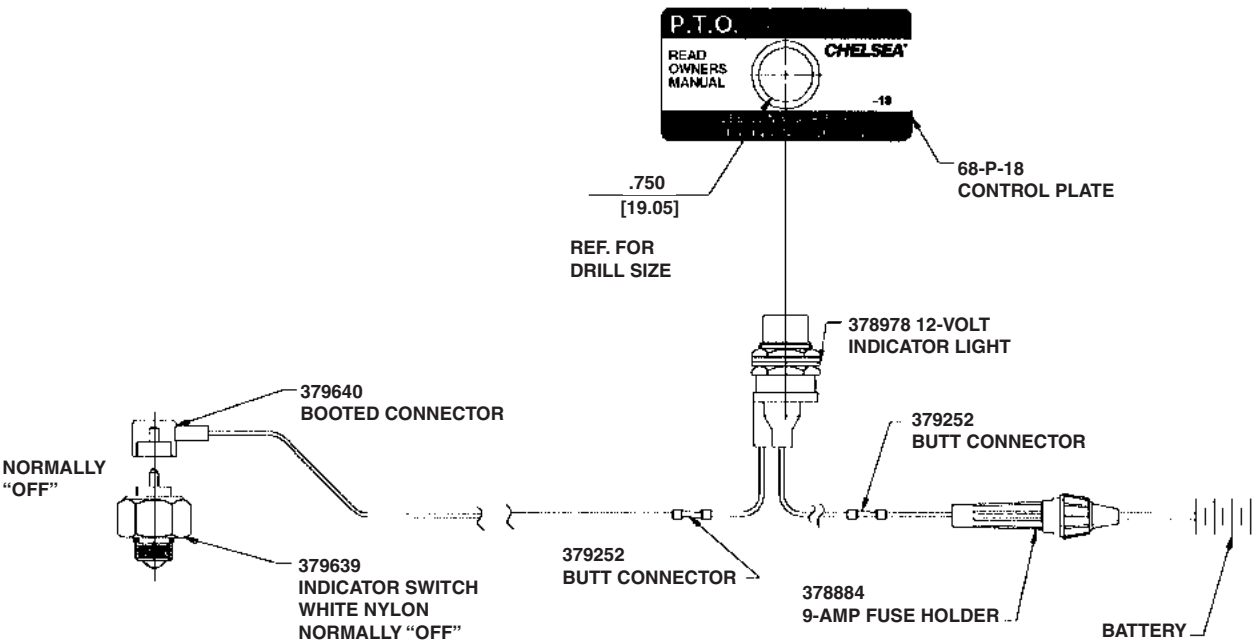
**Air Control Parts****Parts List  
348 Series**

**NOTE:** To assemble Air Shift Conversion Kit from Lever Control Assembly, omit Shifter Ball, Spring, Cylinder End Oil Seal, Jam Nut and Eye Bolt.

Item	Part Number	Description	Qty.
	<b>328911X</b>	Air Shift Cover Assembly (G4 & A5)	
	<b>328912X</b>	Air Shift Cover Assembly (A4 & G5)	
		(Includes Items 34-43)	
	<b>328819X</b>	Air Shift Sub Assembly	
34	<b>65-P-15</b>	Cylinder .....	1
35	<b>28-P-71</b>	O-Ring (.875" Outside Diameter) .....	1
36	<b>28-P-250</b>	O-Ring (2.0" Outside Diameter) .....	1
37	<b>379102</b>	Spring Retainer Washer .....	2
38	<b>37-P-50</b>	Spring .....	1
39	<b>379103</b>	Retainer Ring.....	1
40	<b>66-P-11</b>	Piston.....	1
41	<b>28-P-61</b>	O-Ring (1.825" Outside Diameter) .....	1
42	<b>34-P-81</b>	Cylinder Cap.....	1
43	<b>378430-9</b>	Screw, Self-Locking Hex Head (.312" - 18 x .875") .....	2
44	<b>35-P-14</b>	Cylinder Mounting Gasket	1
45	<b>378430-9</b>	Screw, Self-Locking Hex Head (.312" - 18 x .875") .....	2
N.S.	<b>328388-40X</b>	Air Shift Installation Kit.....	1
		<b>CONVERSION KIT</b>	
	<b>382390-92X</b>	Lever to Air (All Assemblies).....	1

N.S. — Not Shown

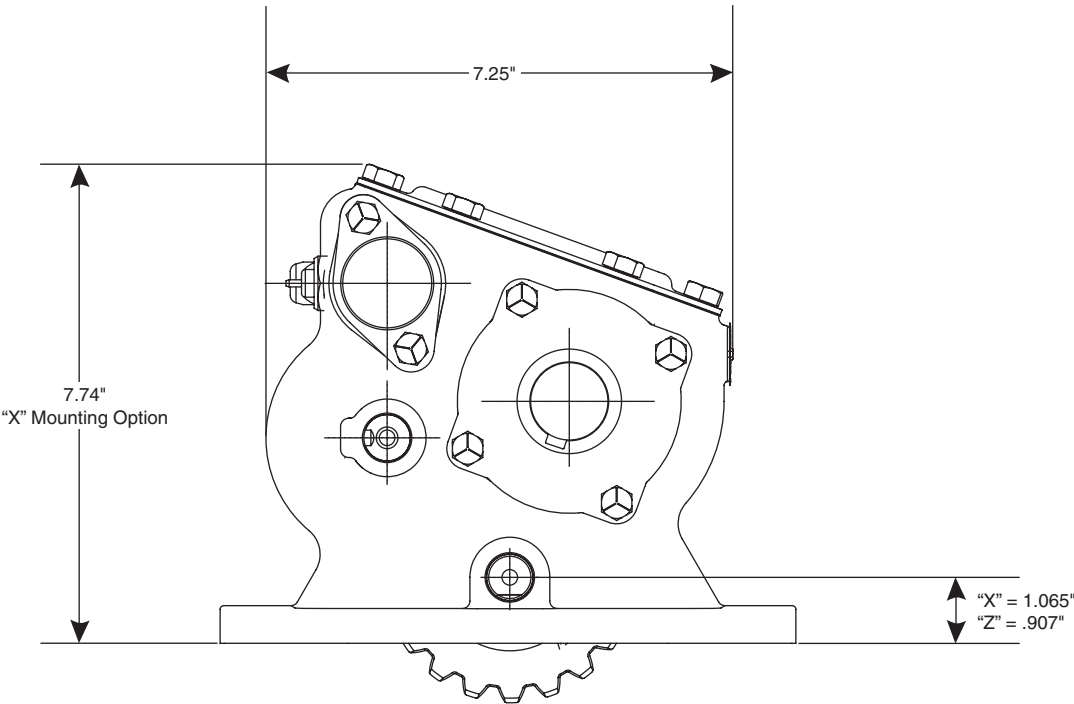
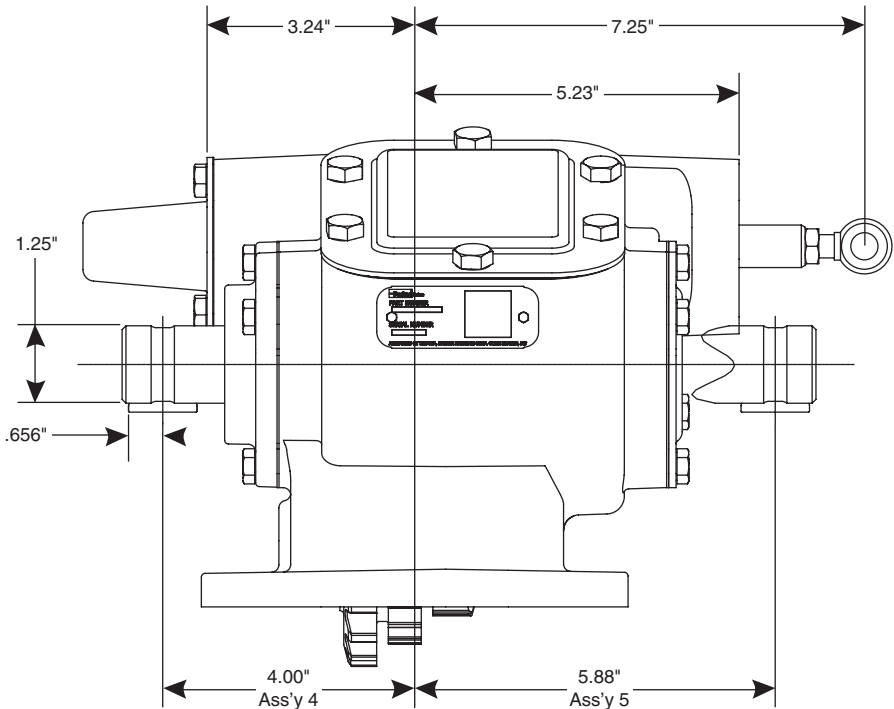
Lever Control Indicator Light Installation Kit - 328751-1X

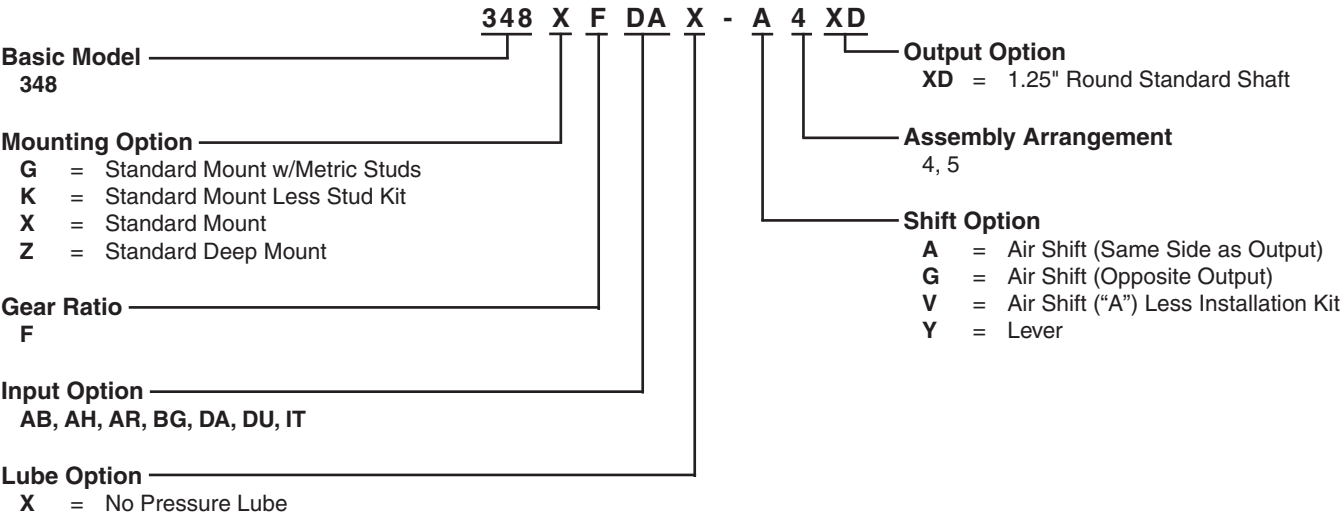


Input Gear Chart

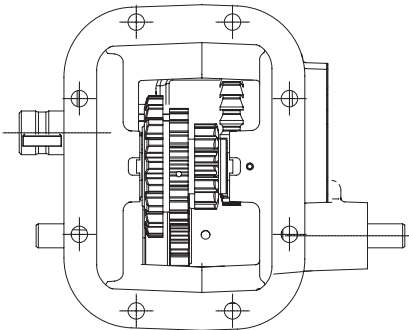
P.T.O. Model	Input Gear	Number Teeth	Helix Angle
348*FAB	5-P-579	19-21-14	Spur
348*FAH	5-P-581	23-21-24	Spur
348*FAR	5-P-582	21-21-14	Left Hand
348*FBG	5-P-580	23-21-14	Left Hand
348*FDA	5-P-634	23-21-14	Spur
348*FDU	5-P-883	28-21-14	Left Hand
348*IT			



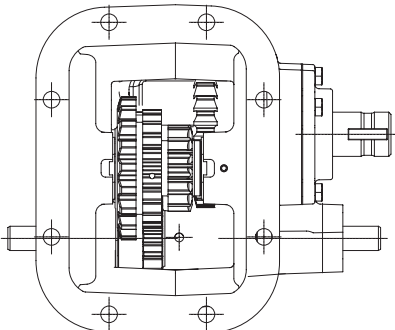




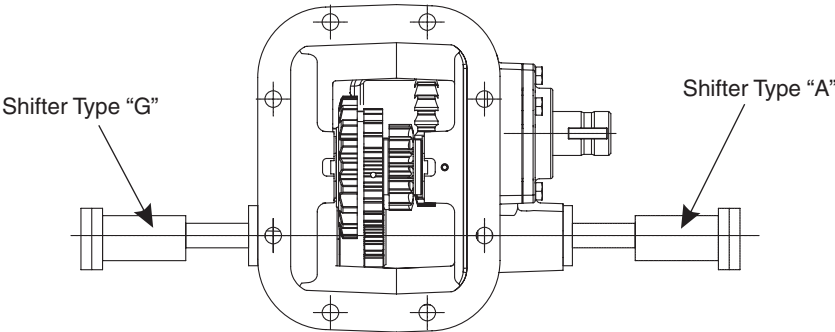
Assembly Arrangements



Assembly 4



Assembly 5



<b>328170-209X</b>	Stud Kit	
379745	Flange Nut.....	8
379424-19	Mounting Stud.....	8
<b>328388-40X</b>	Air Shift Kit	
328388-45X	Air Shift.....	1
328865X	Shifter Valve.....	1
378414	Pressure Protection Valve.....	1
379044-6	Nylon Tubing.....	1
379130	Support Bracket.....	2
68-P-29	Control Plate.....	1
379640	Booted Connector.....	1
<b>328751-1X</b>	Install Kit	
378978	Indicator.....	1
379252	Butt Connector.....	2
68-P-18	Name Plate.....	1
379640	Booted Connector.....	1
379900	Fuse Ass'y.....	1
<b>328390-92X</b>	Air Shift Conversion	
328388-40X	Air Shift.....	1
328819X	Air Shift Ass'y.....	1
35-P-14	Gasket.....	1
378430-9	Hex Capscrew.....	2
Owners Manual	HY25-1135-M1/US.....	1
<b>328390-153X</b>	"V" Shift Option Kit	
379640	Booted Connector.....	1
378414	Pressure Protection Valve.....	1
378430-9	Hex Capscrew.....	2
328819X	Air Shift Ass'y.....	1
35-P-14	Gasket.....	1
Owners Manual	HY25-1135-M1/US.....	1
<b>328594-30X</b>	Kit, Bearing and Idler Shaft	
31-P-80	Thrust Washer.....	2
28-P-191	O-Ring .54".....	1
378452-7	Set Screw.....	1
550890	Needle Bearing.....	2
14-P-32	Spacer .77".....	1
9-P-102	Shaft Idle.....	1
<b>328388-45X</b>	Air Shift Kit.....	
378416	Hex Nipple.....	1
378978	Indicator.....	1
379042	Male Connector.....	6
379252	Butt Connector.....	2
500357-7	Lockwasher.....	8
500376-6	Nut 10 - 24.....	4
500448-9	Screw Slot.....	4
379900	Fuse Ass'y.....	1

<b>328948-8X</b>		
328946X	Caution Label Kit.....	1
35-P-15-1	Gasket, Housing .010" .....	2
35-P-15-2	Gasket, Housing .020" .....	2
379085-1	P.T.O. Instructions Decal .....	1
379624	Product Warranty Card .....	1
Owners Manual	HY25-1135-M1/US .....	1
Safety Guide	HY25-1002-M1/US .....	1
<b>7170-120X</b>	Stud Kit (Metric)	
379745	Flange Nut .....	8
379429-22	Stud M12 .....	8

## This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue or grey lines across its entire width, typical of notebook paper. There are no margins, text, or other markings present.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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**3. Delivery Dates; Title and Risk; Shipment.** All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon placement of the products with the shipment carrier at Seller's facility. Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyer's request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.

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**5. Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 30 days after delivery. Buyer shall notify Seller of any alleged breach of warranty within 30 days after the date the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for an amount due on any invoice) must be commenced within 12 months from the date of the breach without regard to the date breach is discovered.

**6. LIMITATION OF LIABILITY. UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.**

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**8. Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, will be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

**9. Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**10. Buyer's Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.

**11. Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

**12. Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.

**13. Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

**14. Force Majeure.** Seller does not assume the risk and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

**15. Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

**16. Termination.** Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days written notice of termination. Seller may immediately terminate this agreement, in writing, if Buyer: (a) commits a breach of any provision of this agreement (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or by a third party (d) makes an assignment for the benefit of creditors, or (e) dissolves or liquidates all or a majority of its assets.

**17. Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

**18. Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

**19. Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

**20. Compliance with Law, U. K. Bribery Act and U.S. Foreign Corrupt Practices Act.** Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA") and the U.S. Anti-Kickback Act (the "Anti-Kickback Act"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act, the FCPA and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer shall not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase products or otherwise benefit the business of Seller.

02/12



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BLI 11/13 1,340

