

# ASO-10S SERIES MAIN TRANSMISSION

**TTC** TRANSMISSION  
TECHNOLOGIES  
Corporation

T210-ASO165-10S



Technology in Motion®

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**906 W. Gore St.**

**Orlando, FL 32805**



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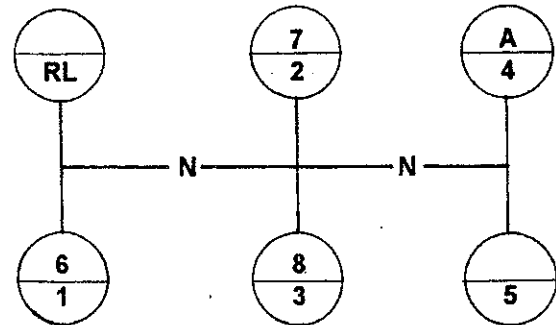
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# MODELS ASO125,140,150,165-10S

## RATIO TABLE and IDENTIFICATION

T210-ASO165-10S

| Models | Ratio Table                |  |
|--------|----------------------------|--|
|        | ASO125-10S BASE B/M 301541 |  |
| Speeds | ASO140-10S BASE B/M 301542 |  |
|        | ASO150-10S BASE B/M 301526 |  |
|        | ASO165-10S BASE B/M 301543 |  |
|        |                            |  |
| 1st    | 12.54                      |  |
| 2nd    | 9.24                       |  |
| 3rd    | 6.68                       |  |
| 4th    | 4.80                       |  |
| 5th    | 3.60                       |  |
| 6th    | 2.61                       |  |
| 7th    | 1.92                       |  |
| 8th    | 1.39                       |  |
| 9th    | 1.00                       |  |
| 10th   | 0.75                       |  |
| Rev    | 14.02                      |  |



The Name Plate NP-96 affixed to the rear left hand side of the Transmission is stamped with Information.

### Identification:

In requesting more information on the Transmissions, please furnish this Information.

Serial No.

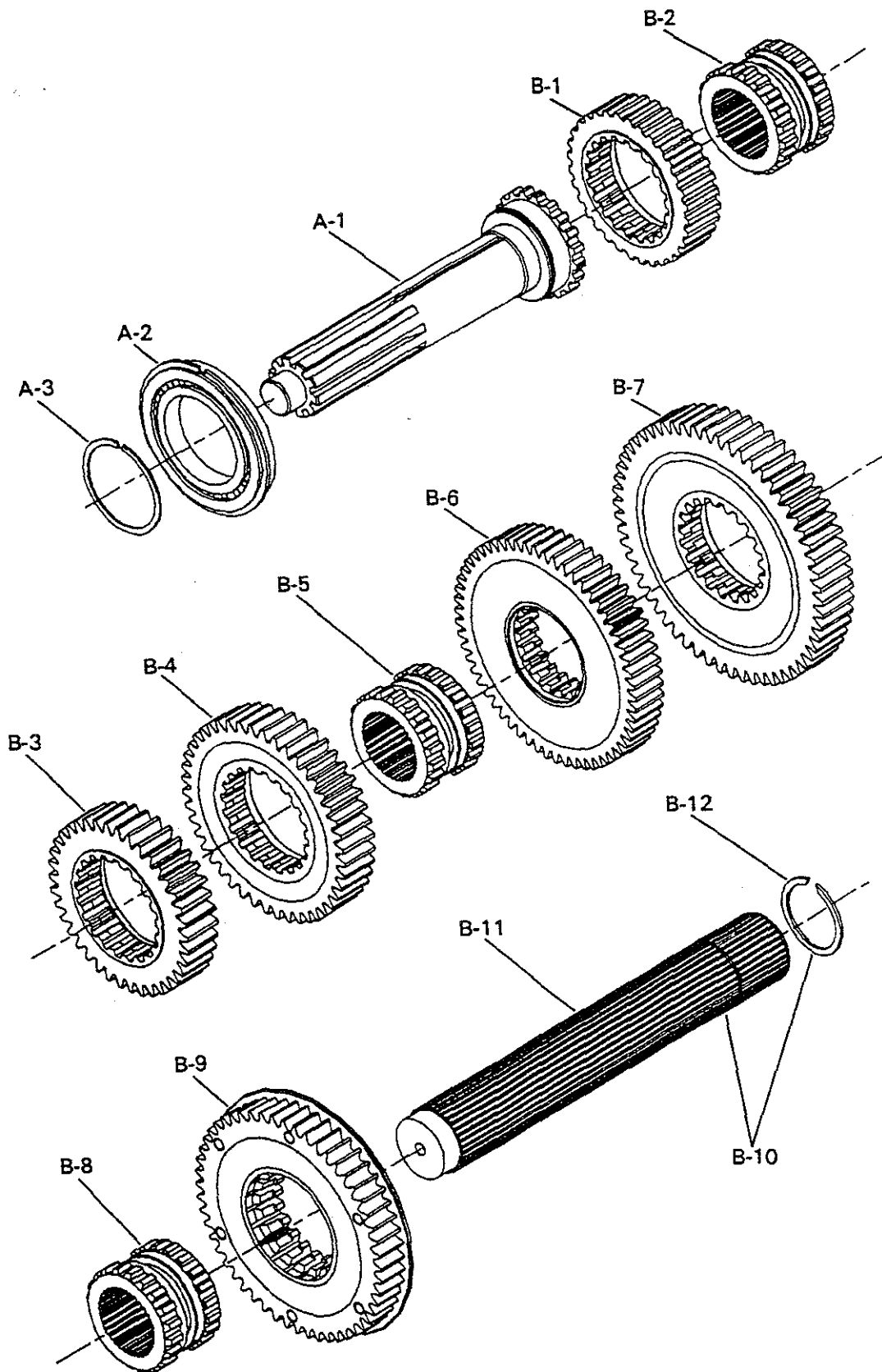
B/M No.  Model

Abbreviations used in this Parts List include:

N.S. - Not Shown  
N.S.S. - Not Sold Separately  
A.R. - As Required

**MODELS ASO125,140,150,165-10S**  
**GEARS and RELATED PARTS-MAIN SECTION**

**T210-ASO165-10S**



**MODELS ASO125,140,150,165-10S**  
**GEARS and RELATED PARTS-MAIN SECTION**

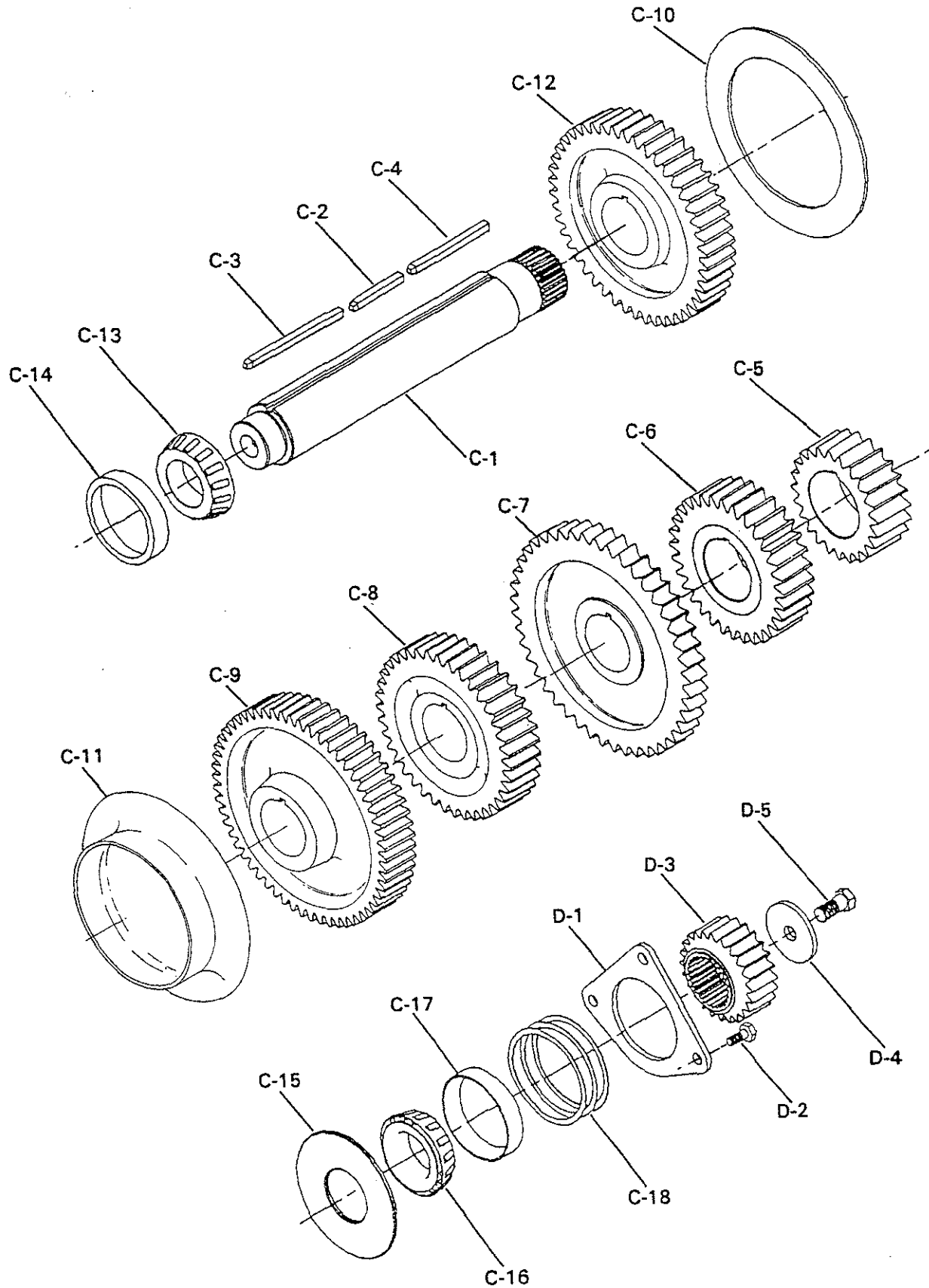
**T210-ASO165-10S**

| <b>Ref. No.</b> | <b>Part No.</b> | <b>Description</b>                                      | <b>Qty.</b> |
|-----------------|-----------------|---------------------------------------------------------|-------------|
|                 |                 | <b>Drive Gear Group - Input Main Section</b>            |             |
| A-1             | 201-35-2        | Shaft - Input (2.00"-10 spline #306 (1.180" dia.) Pilot | 1           |
| A-2             | 313645X         | S/Assy. - Bearing & Belleville Snap Ring                | 1           |
| A-3             | 201-381-1       | Snap Ring - Input Shaft                                 | 1           |
|                 |                 | <b>Mainshaft Group Main Section</b>                     |             |
| B-1             | 201-8-49        | Gear - Drive (5th & 10th) (50T)                         | 1           |
| B-2             | 201-465-5       | Collar - M/S Clutch (4th,5th & 9th,10th)                | 1           |
| B-3             | 201-8-48        | Gear - Mainshaft (4th & 9th) (40T)                      | 1           |
| B-4             | 201-8-46        | Gear - Mainshaft (3rd & 8th) (46T)                      | 1           |
| B-5             | 201-465-2       | Collar - M/S Clutch (2nd,3rd & 7th,8th)                 | 1           |
| B-6             | 201-8-45        | Gear - Mainshaft (2nd & 7th) (62T)                      | 1           |
| B-7             | 201-8-44        | Gear - Mainshaft (1st) (62T)                            | 1           |
| B-8             | 201-465-2       | Collar - M/S Clutch (1st & Rev.)                        | 1           |
| B-9             | 201-8-10-1X     | Gear - M/Shaft Reverse (Includes Thrust Ring & Reivets) | 1           |
| B-10            | 201-362-1-1X    | Kit - Mainshaft & Snap Ring                             | 1           |
| B-11            | N.S.S.          | Mainshaft                                               | 1           |
| B-12            | 201-381-3       | Snap Ring - Mainshaft Drive Gear - Range                | 1           |

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**T210-ASO165-10S**





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**GEARS and RELATED PARTS-MAIN SECTION**

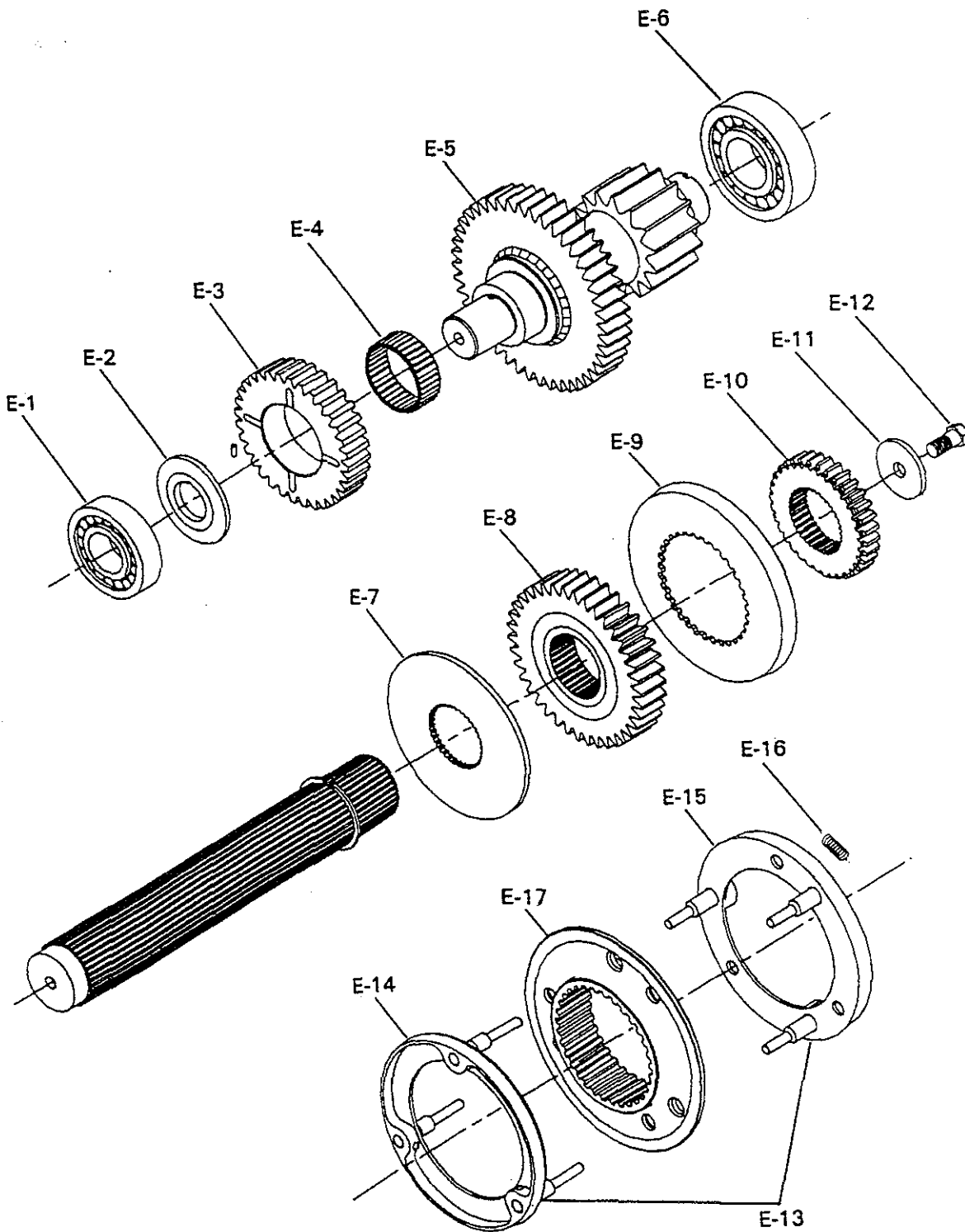
**T210-ASO165-10S**

| Ref. No. | Part No.    | Description                                        | Qty. |
|----------|-------------|----------------------------------------------------|------|
|          |             | <b>Countershaft Group Main Section</b>             |      |
| C-1      | 201-30-14   | Countersaft - Main                                 | 2    |
| C-2      | 201-210-4-2 | Key - Countershaft Gear - Middle                   | 2    |
| C-3      | 201-210-4-3 | Key - Countershaft Gear - Front                    | 2    |
| C-4      | 201-210-4-1 | Key - Countershaft Gear - Rear                     | 2    |
| C-5      | 201-196-36  | Gear - Countershaft (1st & 6th) (28T)              | 2    |
| C-6      | 201-196-38  | Gear - Countershaft (2nd & 7th) (8T)               | 2    |
| C-7      | 201-312-3   | Gear - Countershaft PTO Drive                      | 2    |
| C-8      | 201-196-42  | Gear - Countershaft (3rd & 8th) (39T)              | 2    |
| C-9      | 201-196-40  | Gear - Countershaft (4th & 9th) (63T)              | 2    |
| C-10     | 201-47-2    | Ring - Countershaft Thrust (Flat)                  | 2    |
| C-11     | 201-47-5    | Ring - Countershaft H.E. Gear Thrust               | 2    |
| C-12     | 201-196-41  | Gear - Countershaft H.E. (5th & 10th) (59T)        | 2    |
| C-13     | 551013      | Bearing - Cone Front Countershaft                  | 2    |
| C-14     | 550375      | Bearing - Cup Front Countershaft                   | 2    |
| C-15     | 201-47-3    | Ring - Countershaft (1st) Thrust                   | 2    |
| C-16     | 550182      | Bearing - Cone Rear Countershaft                   | 2    |
| C-17     | 550375      | Bearing - Cup Rear Countershaft                    | 2    |
| C-18     | 201-228-1-1 | Shim - Countershaft Rear Bearing (.005 thick)      | A/R  |
| or       | 201-228-1-2 | Shim - Countershaft Rear Bearing (.010 thick)      | A/R  |
| or       | 201-228-1-3 | Shim - Countershaft Rear Bearing (.015 thick)      | A/R  |
| or       | 201-228-1-4 | Shim - Countershaft Rear Bearing (.020 thick)      | A/R  |
| or       | 201-228-1-5 | Shim - Countershaft Rear Bearing (.030 thick)      | A/R  |
| D-1      | 201-360-1   | Plate - Retainer Countershaft                      | 2    |
| D-2      | 545002-1    | Screw - Plate Retaining Countershaft               | 6    |
| D-3      | 201-196-12  | Gear - Countershaft Reverse - Range (21T)          | 2    |
| D-4      | 330952      | Washer - Countershaft Reverse Drive Gear Retaining | 2    |
| D-5      | 545001-5    | Screw - Reverse Drive Gear Retaining Washer        | 2    |



**MODELS ASO125,140,150,165-10S**  
**GEARS and RELATED PARTS-RANGE SECTION**

**T210-ASO165-10S**



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**GEARS and RELATED PARTS-RANGE SECTION**

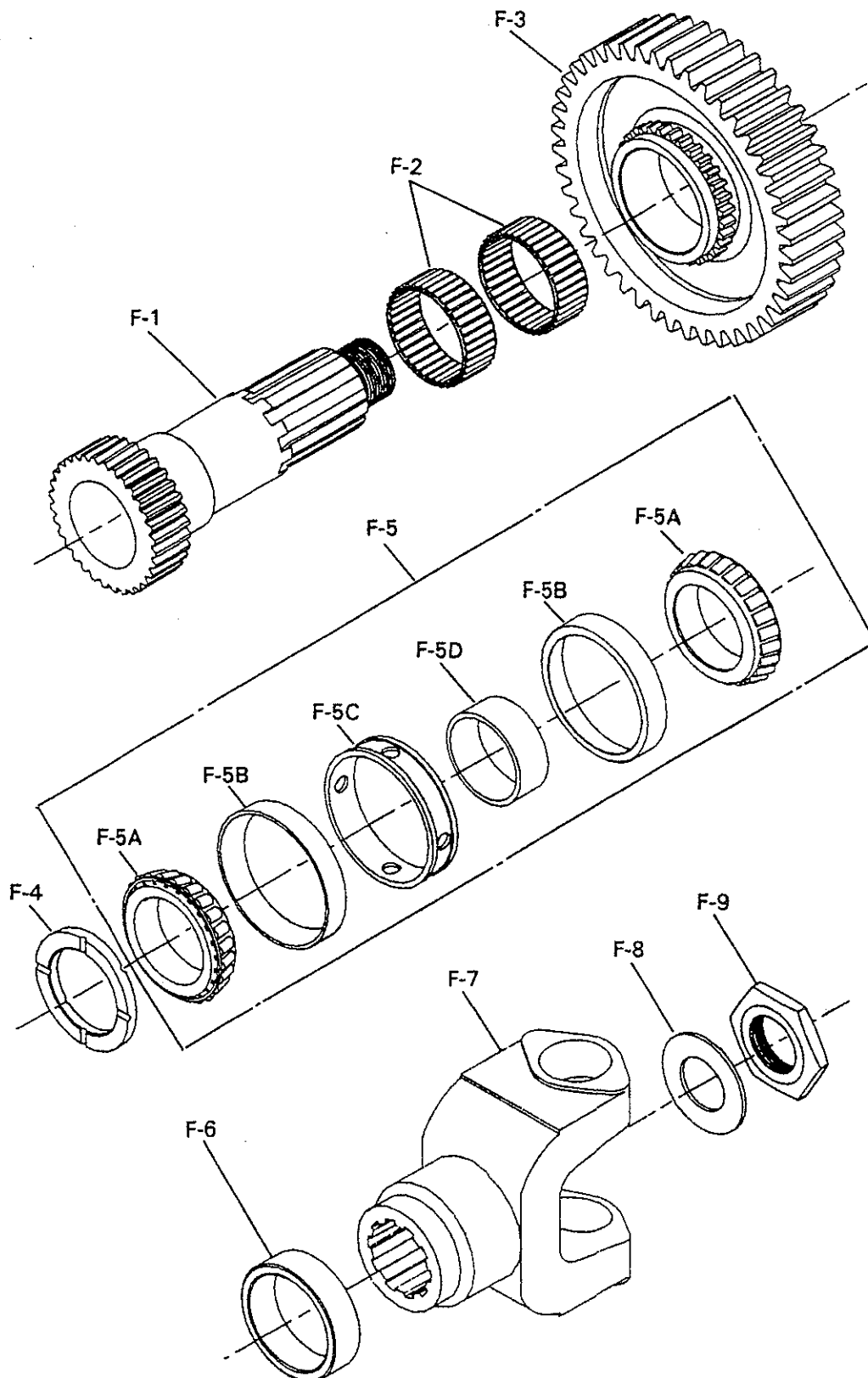
**T210-ASO165-10S**

| <b>Ref.<br/>No.</b> | <b>Part No.</b>    | <b>Description</b>                                       | <b>Qty.</b> |
|---------------------|--------------------|----------------------------------------------------------|-------------|
|                     |                    | <b>Countershaft and Synchronizer Group Range Section</b> |             |
| E-1                 | <b>550996</b>      | Bearing - Countershaft Front                             | 2           |
| E-2                 | <b>330955</b>      | Washer - Countershaft Reverse Idler Thrust               | 2           |
| E-3                 | <b>201-5-2</b>     | Gear - Reverse Idler Countershaft                        | 2           |
| E-4                 | <b>550997</b>      | Bearing - Needle Reverse Idler                           | 2           |
| E-5                 | <b>201-30-12</b>   | Countershaft S/Assy. - Range                             | 2           |
| E-6                 | <b>551009</b>      | Bearing - Countershaft Rear                              | 2           |
| E-7                 | <b>201-47-6</b>    | Ring - Thrust Mainshaft Drive Gear                       | 1           |
| E-8                 | <b>201-8-51</b>    | Gear - Mainshaft Head End (26T)                          | 1           |
| E-9                 | <b>201-494-1</b>   | Race - Synchronizer Outer                                | 1           |
| E-10                | <b>201-466-2</b>   | Gear - Clutch Drive (High Range)                         | 1           |
| E-11                | <b>330954</b>      | Washer - Mainshaft Clutch Gear Retaining (High Range)    | 1           |
| E-12                | <b>545001-5</b>    | Screw - Clutch Gear Retaining Washer (High Range)        | 1           |
| E-13                | <b>313627-1X</b>   | Synchronizer - High & Low (Includes E-14,E-15,E-16)      | 1           |
| E-14                | <b>N.S.S.</b>      | S/Assy. - Synchronizer - Low Range                       | 1           |
| E-15                | <b>N.S.S.</b>      | S/Assy. - Synchronizer - High Range & Springs            | 1           |
| E-16                | <b>201-72-1-1X</b> | Kit - Synchronizer Springs (Includes (3) Springs)        | 1           |
| E-17                | <b>201-465-4</b>   | Collar - Clutch - High & Low Range                       | 1           |

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**GEARS and RELATED PARTS-RANGE SECTION**

**T210-ASO165-10S**

| Ref. No. | Part No.        | Description                                                    | Qty. |
|----------|-----------------|----------------------------------------------------------------|------|
|          |                 | <b>Mainshaft Group - Output Range Section</b>                  |      |
| F-1      | 201-362-3       | Output Shaft                                                   | 1    |
| F-2      | 313668X         | Kit - Needle Bearing - Output Shaft ( Includes (2)pcs. 550975) | 1    |
| F-3      | 201-8-41        | Gear - Output - Low Range (52T)                                | 1    |
| F-4      | 201-47-4        | Washer - Thrust Output Shaft                                   | 1    |
| F-5      | 313628X         | S/Assy. - Bearing and Spacer Output Shaft                      | 1    |
| F-5A     | N.S.S.          | Bearing - Cone Output Shaft                                    | 2    |
| F-5B     | N.S.S.          | Bearing - Cup Output Shaft                                     | 2    |
| F-5C     | N.S.S.          | Spacer - Bearing Cup Output Shaft                              | 1    |
| F-5D     | N.S.S.          | Spacer - Bearing Cone Output Shaft                             | 1    |
| F-6      | 201-37-6        | Spacer - Speedometer                                           | 1    |
| or       | 201-452-1       | Electronic Speedometer Signal Gear (16 grooves)                | 1    |
| F-7      | See Table Below | Flange or End Yoke                                             | 1    |
| F-8      | 330734          | Washer - Output Shaft Nut                                      | 1    |
| F-9      | 545065          | Nut - Output Shaft (1.75"-16 UNEF-3B)                          | 1    |

**END YOKE**

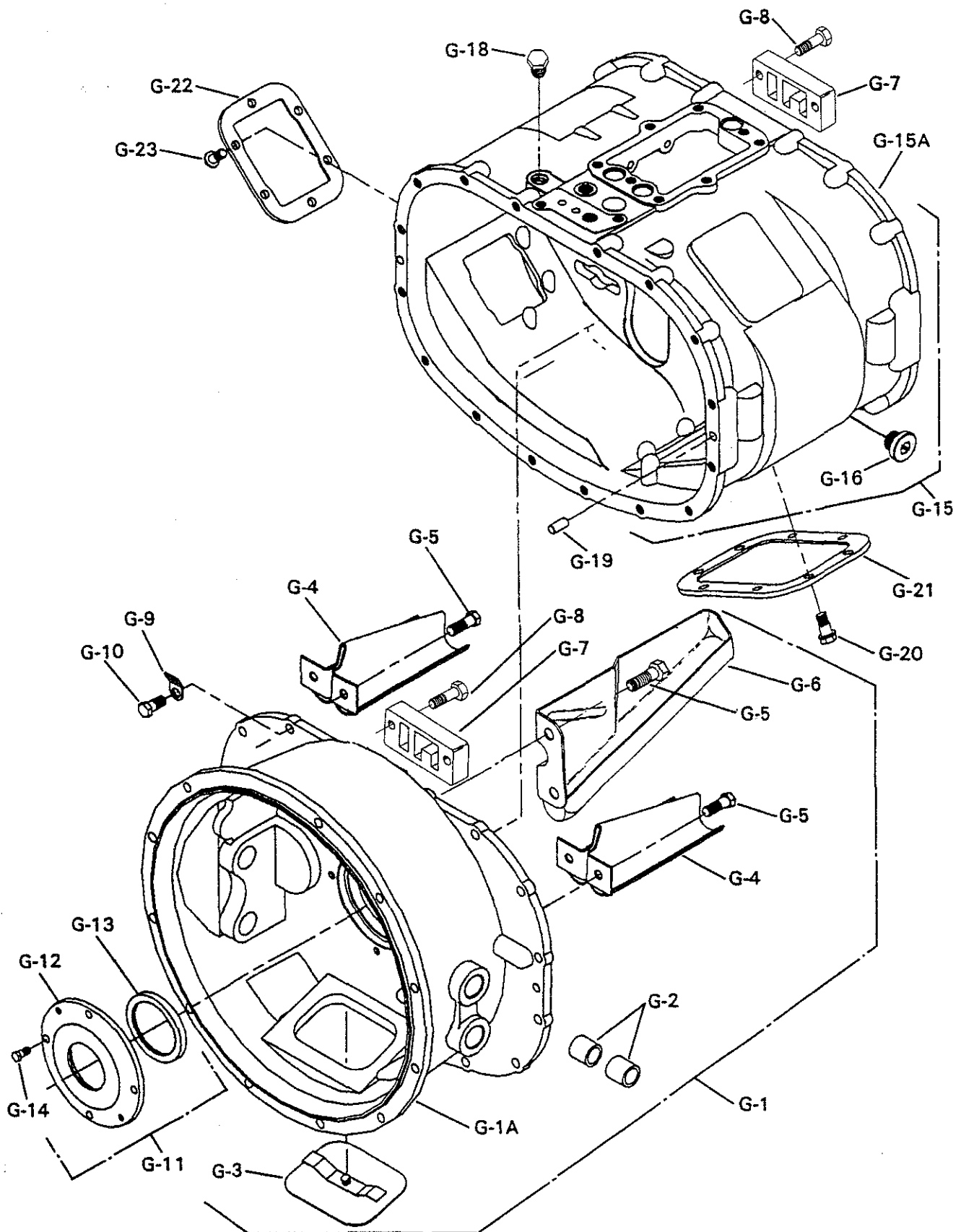
**TABLE**

| Series | Yoke Style | End Yoke Part No. | S<br>End of Hub to<br>C/L Length | Maximum<br>Momentary<br>Joint Angle | Spline<br>Type |
|--------|------------|-------------------|----------------------------------|-------------------------------------|----------------|
| 1710   | Full Round | 6-4-6611          | 5.620"                           | 30 degrees                          | Stra. sided    |
| 1710   | Half Round | 6-4-6611-1        | 5.620"                           | 30 degrees                          | Stra. sided    |
| 1760   | Full Round | 6.3-4-651         | 6.030"                           | 30 degrees                          | Stra. sided    |
| 1760   | Half Round | 6.3-4-651-1       | 6.030"                           | 30 degrees                          | Stra. sided    |
| 1810   | Full Round | 6.5-4-3451        | 5.880"                           | 30 degrees                          | Stra. sided    |
| 1810   | Half Round | 6.5-4-3451-1      | 5.880"                           | 30 degrees                          | Stra. sided    |

N.S.S. - Not Sold Separately

**MODELS ASO125,140,150,165-10S**  
**CLUTCH HOUSING, FRONT BEARING CAP and MAIN CASE**

**T210-ASO165-10S**



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**CLUTCH HOUSING, FRONT BEARING CAP and MAIN CASE**

**T210-ASO165-10S**

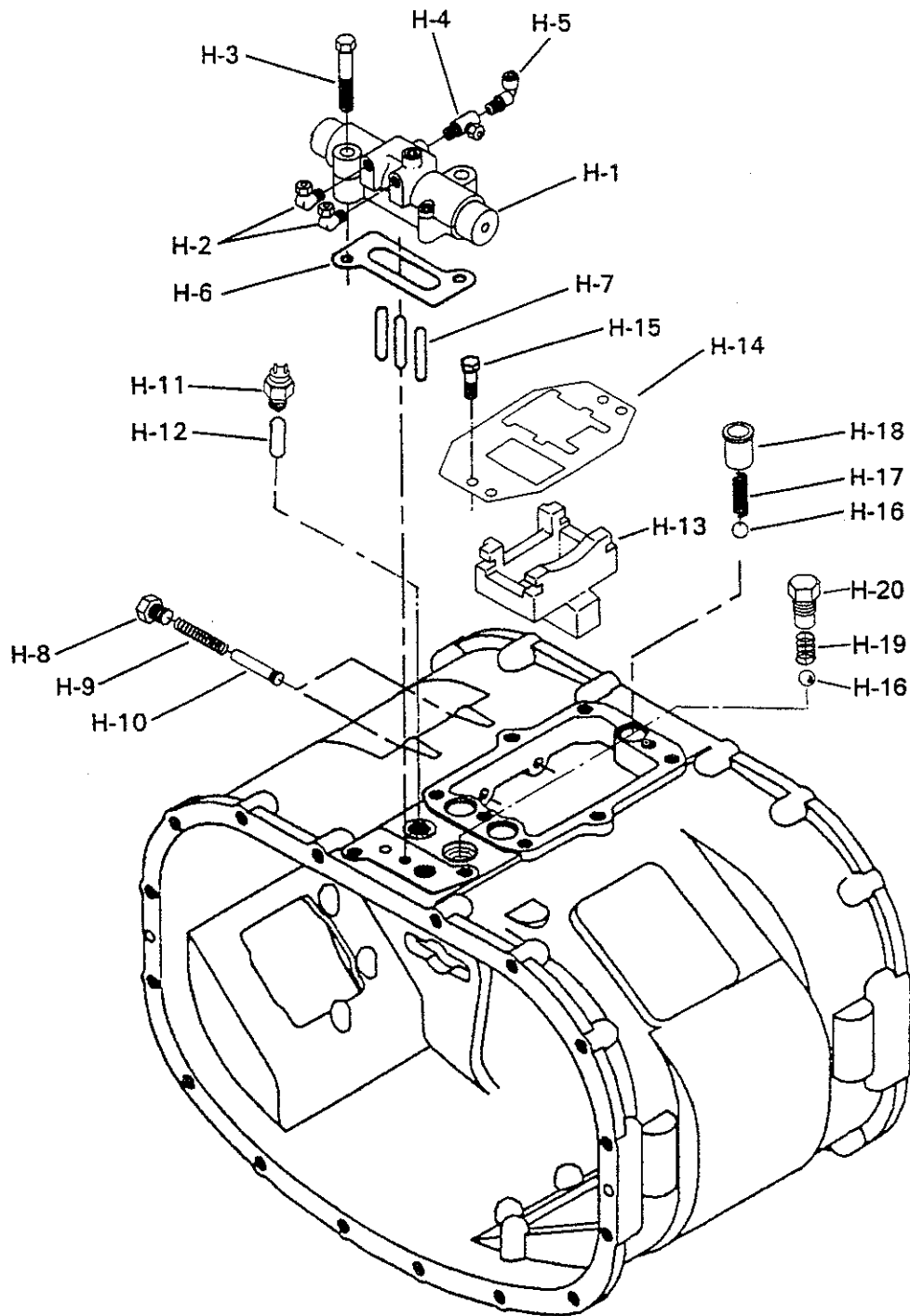
| Ref. No. | Part No.      | Description                                                                           | Qty. |
|----------|---------------|---------------------------------------------------------------------------------------|------|
|          |               | <b>Clutch Housing Group</b>                                                           |      |
| G-1      | 201-518-10-2X | Clutch Housing, Hand Hole Cover, Oil Troughs and Bushings<br>(Includes G-1A thru G-6) | 1    |
| G-1A     | N.S.S.        | Clutch Housing                                                                        | 1    |
| G-2      | 97-24-8       | Bushing - Clutch Release Shaft                                                        | 4    |
| G-3      | 97-96-18-1X   | S/Assy. - Hand Hole Cover                                                             | 1    |
| G-4      | 201-468-1     | Oil Trough - Countershaft                                                             | 2    |
| G-5      | 545002-13     | Screw - Oil Troughs (2 each) (.375"-13 x 1.375")                                      | 6    |
| G-6      | 201-468-2     | Oil Trough - Drive Gear                                                               | 1    |
| N.S.     | 330934        | Magnet - Ceramic (Location is Case Side Bottom)                                       |      |
| G-7      | 201-477-4     | Support - Shift Rails (Front & Rear)                                                  | 2    |
| G-8      | 545002-7      | Screw - Support Bar (.375"-16 x 1.50") (2 each)                                       | 4    |
| G-9      | 330969        | Lift Hook                                                                             | 2    |
| G-10     | 545001-1      | Screw - Clutch Housing (.500"-13 x 1.375")                                            | 16   |
|          |               | <b>Front Bearing Cap Group</b>                                                        |      |
| G-11     | 201-19-2-1X   | S/Assy. - Drive Gear Bearing Cap and Oil Seal<br>(Includes G-12 thru G-14)            | 1    |
| G-12     | N.S.S.        | Bearing Cap                                                                           | 1    |
| G-13     | 97-463-36-1X  | Oil Seal - Drive Cap Bearing Cap (w/installation sleeve)                              | 1    |
| G-14     | 545002-1      | Screw - Drive Gear Bearing Cap (.375"-16 x .875")                                     | 4    |
|          |               | <b>Main Case Group</b>                                                                |      |
| G-15     | 201-15-5-1X   | S/Assy. - Main Case (Includes G-15A thru G-18)                                        | 1    |
| G-15A    | N.S.S.        | Case                                                                                  | 1    |
| G-16     | 545123        | Plug - Filler & Drain                                                                 | 1    |
| G-18     | 201-39-1      | Plug - Case Oil Return Hole                                                           | 1    |
| N.S.     | 330934        | Magnet - Ceramic (Location is at large PTO opening)                                   | 1    |
| N.S.     | 330934        | Magnet - Ceramic (Location is at bottom Oil Return hole)                              | 1    |
| G-19     | 201-438-3     | Pin - Dowel Case                                                                      | 4    |
| G-20     | 545012        | Screw - PTO Aperture Cover (8 Hole)                                                   | 8    |
| G-21     | 73-267-1      | Cover - PTO (8 Hole)                                                                  | 1    |
| G-22     | 50-267-2      | Cover - PTO (6 Hole)                                                                  | 1    |
| G-23     | 330800        | Screw - PTO Aperture Cover                                                            | 6    |

N.S. - Not Shown

N.S.S. - Not Sold Separately

**MODELS ASO125,140,150,165-10S**  
**WILLIAMS CONTROL and INTERLOCK GROUP**

**T210-ASO165-10S**





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**T210-ASO165-10S**

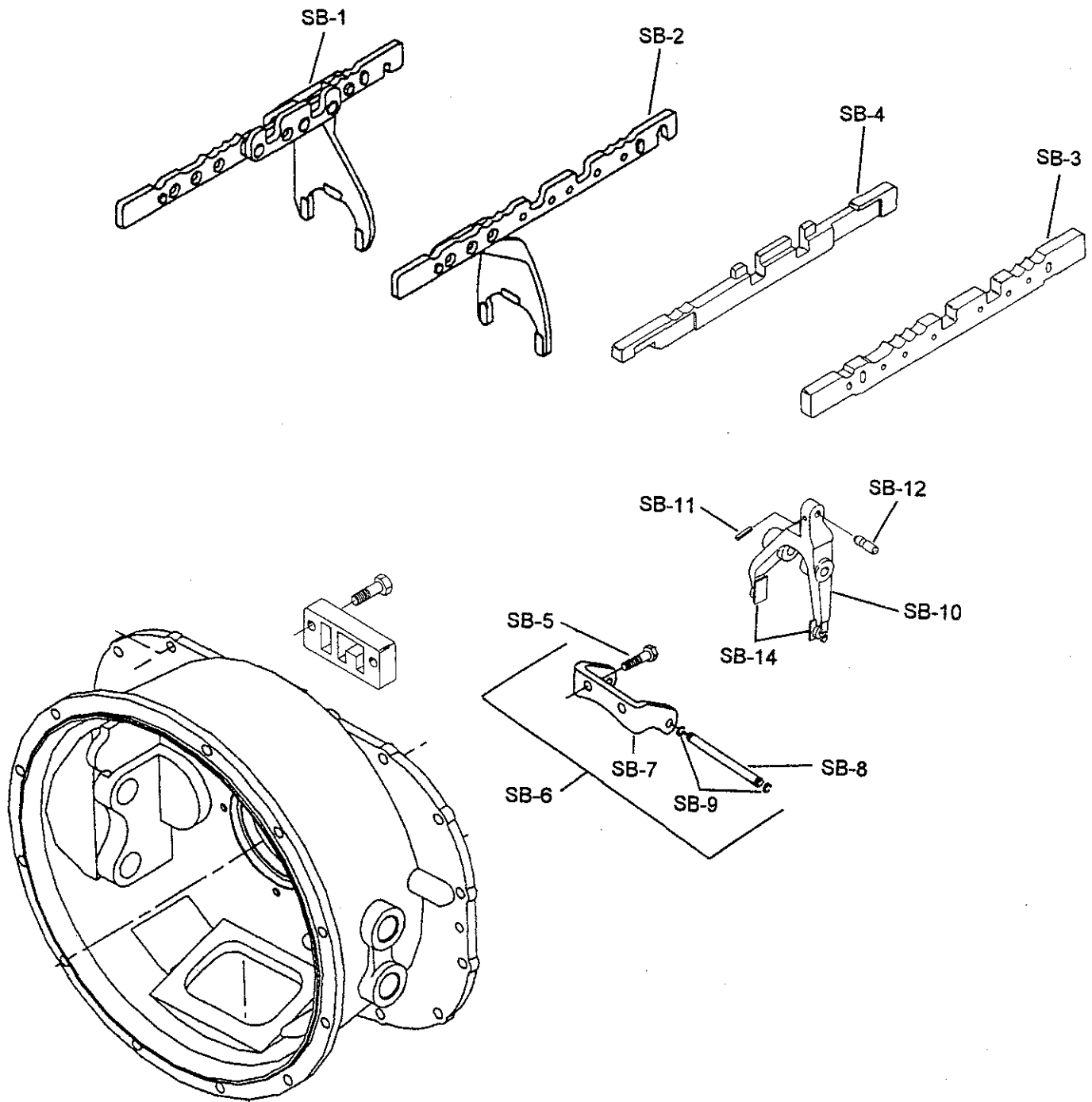
| Ref. No.                     | Part No.  | Description                                           | Qty. |
|------------------------------|-----------|-------------------------------------------------------|------|
| H-1                          | 313630X   | <b>Williams Control</b><br>S/Assy. - Williams Control | 1    |
| H-2                          | 545025-2  | Elbow - Williams Control 90 degree                    | 2    |
| H-3                          | 545028-6  | Screw - Williams Control (.438"-14 x 2.250")          | 2    |
| H-4                          | 545109    | Tee - Adapter Williams Control                        | 1    |
| H-5                          | 545130    | Elbow - Williams Control                              | 1    |
| N.S.                         | 201-420-7 | Tube Support (#38163 Legris Tube Support)             | A/R  |
| H-6                          | 201-118-1 | Gasket - Williams Control                             | 1    |
| H-7                          | 201-438-5 | Pin - Williams Air Control Valve                      | 3    |
| <b>Interlock Parts Group</b> |           |                                                       |      |
| H-8                          | 545128    | Plug - 1st and Reverse Spring Plunger                 | 2    |
| H-9                          | 201-72-6  | Spring - 1st and Reverse                              | 2    |
| H-10                         | 40-438-1  | Pin - Plunger 1st and Reverse                         | 2    |
| H-11                         | 313538    | Switch - Back up Light                                | 1    |
| H-12                         | 201-438-2 | Pin - Actuating Back up Light Switch                  | 1    |
| H-13                         | 201-200-5 | Interlock - Shifter Rail                              | 1    |
| H-14                         | 201-200-7 | Plate - Interlock Retainer                            | 1    |
| H-15                         | 330801-1  | Screw - Interlock Plate (.438"-14 x .875")            | 2    |
| H-16                         | 201-80-1  | Ball - Poppet                                         | 4    |
| H-17                         | 201-72-2  | Spring - Poppet Shift Rail                            | 3    |
| H-18                         | 201-487-1 | Insert - Poppet Spring & Ball                         | 3    |
| H-19                         | 201-72-7  | Spring - Poppet Shift Rail                            | 1    |
| H-20                         | 201-487-2 | Insert - Poppet Spring & Ball                         | 1    |

| <b>SHIFT LEVER AND TOWER ASSEMBLIES</b> |              |                        |             |                   |
|-----------------------------------------|--------------|------------------------|-------------|-------------------|
| <b>LVR &amp; TOWER ASSEMBLY</b>         | <b>TOWER</b> | <b>LEVER</b>           | <b>LNTH</b> | <b>BOOT INCL.</b> |
| <b>P-1 thru P-22</b>                    | <b>P-22</b>  | <b>P-10 &amp; P-11</b> |             | <b>IN ASSY.</b>   |
| 201-17-6-1X                             | 201-17-6     | 25Q-2661-1-1X          | 31.67"      | 201-483-4 OVAL    |
| 201-17-6-2X                             | 201-17-6     | 25Q-2661-2-1X          | 30.90"      | 201-483-5 RECT.   |
| 201-17-6-3X                             | 201-17-6     | 25Q-2661-3-1X          |             | 201-483-5 RECT.   |
| 201-17-6-4X                             | 201-17-6     | 25Q-2661-4-1X          | 32.30"      | 201-483-3 OVAL    |
| 201-17-6-5X                             | 201-17-6     | 25Q-2661-5-1X          | 32.31       | 201-483-3 OVAL    |
| 201-17-6-6X                             | 201-17-6     | 25Q-2661-12-1X         | 29.85"      | 201-483-3 OVAL    |
| 201-17-6-7X                             | 201-17-6     | 25Q-2661-11-1X         | 30.30"      | 201-483-3 OVAL    |
| 201-17-6-8X                             | 201-17-6     | 25Q-2661-11-1X         | 30.30       | 201-483-3 OVAL    |
| 201-17-10-1X                            | 201-17-10    | 25Q-2661-6-1X          | 32.55"      | 201-483-4 OVAL    |
| 201-17-10-2X                            | 201-17-10    | 25Q-2661-7-1X          | 31.78"      | 201-483-5 RECT.   |
| 201-17-10-3X                            | 201-17-10    | 25Q-2661-8-1X          | 34.32"      | 201-483-4 OVAL    |
| 201-17-10-4X                            | 201-17-10    | 25Q-2661-6-1X          | 32.55       | 201-483-5 RECT.   |
| 201-17-10-5X                            | 201-17-10    | 25Q-2661-3-2X          |             | 201-483-5 RECT.   |
| 201-17-10-6X                            | 201-17-10    | 25Q-2661-9-1X          | 33.27       | 201-483-3 OVAL    |
| 201-17-10-7X                            | 201-17-10    | 25Q-2661-3-2X          |             | 201-483-4 OVAL    |
| 201-17-10-8X                            | 201-17-10    | 25Q-2663-1X            |             | 201-483-5 RECT.   |
| 201-17-10-9X                            | 201-17-10    | 25Q-2661-10-1X         | 30.09       | 201-483-5 RECT.   |

A/R - As Required

MODELS ASO125,140,150,165-10S  
SHIFT BAR and FORK ASSEMBLY

T210-ASO165-10S



**MODELS ASO125,140,150,165-10S**  
**SHIFT BAR and FORK ASSEMBLY**

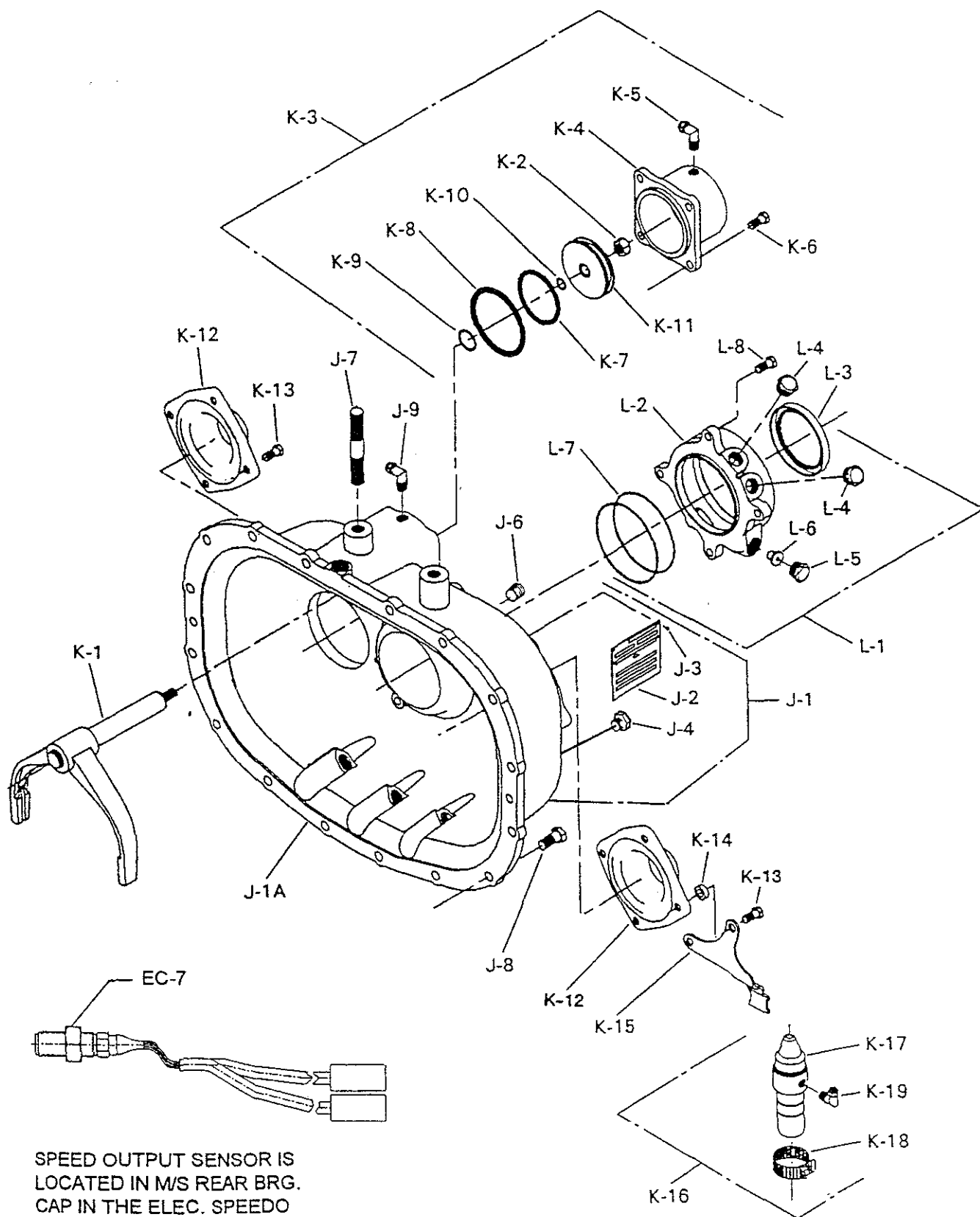
**T210-ASO165-10S**

| Ref. No. | Part No.     | Description                                             | Qty. |
|----------|--------------|---------------------------------------------------------|------|
|          |              | <b>Shift Bar and Fork Assemblies</b>                    |      |
| SB-1     | 313696X      | Fork and Bar Assy. - 1st and Reverse                    | 1    |
| SB-2     | 313694X      | Fork and Bar Assy. - 2nd and 3rd                        | 1    |
| SB-3     | 201-67-15    | Overdrive Shift Bar - 4th and 5th                       | 1    |
| SB-4     | 201-67-16    | Auto Shift Rail                                         | 1    |
| SB-5     | 545002       | Screw - Fork Mounting Bracket Overdrive (.375" x 1.00") | 2    |
| SB-6     | 201-411-3-1X | Kit - Shift Fork Mounting Bracket, Pin and Snap Rings   | 1    |
| SB-7     | N.S.S.       | Mounting Bracket -Overdrive Shift Fork                  | 1    |
| SB-8     | N.S.S.       | Pin - Mounting                                          | 1    |
| SB-9     | N.S.S.       | Snap Ring - Mounting Bracket Pin                        | 2    |
|          | 201-66-20-1X | Kit - Overdrive Shift Fork, Pins and Snap Rings         | 1    |
| SB-8     | N.S.S.       | Pin - Mounting                                          | 1    |
| SB-9     | N.S.S.       | Snap Ring - Mounting Bracket Pin                        | 2    |
| SB-10    | N.S.S.       | Shift Fork and Shoe Sub-assy - 4th and 5th Overdrive    | 1    |
| SB-11    | 201-438-15   | Roll Pin                                                | 1    |
| SB-12    | 201-438-14   | Guide Pin (fork to shift bar)                           | 1    |
| SB-14    | 201-486-1    | Shoe - Overdrive Shift Fork                             | 2    |
|          | 201-438-6-1X | Kit - Mounting Pin and Snap Rings                       | 1    |
| SB-11    | N.S.S.       | Snap Ring - Clevis Pin                                  | 1    |
| SB-12    | N.S.S.       | Clevis Pin - Shift Fork                                 | 1    |
|          | 201-438-7-1X | Kit - Mounting Bracket, Pins and Snap Rings             | 1    |
| SB-8     | N.S.S.       | Pin - Mounting                                          | 1    |
| SB-9     | N.S.S.       | Snap Ring - Mounting Bracket Pin                        | 2    |

N.S.S. - Not Sold Separately

**MODELS ASO125,140,150,165-10S**  
**RANGE CASE and RELATED PARTS**

**T210-ASO165-10S**



SPEED OUTPUT SENSOR IS  
 LOCATED IN M/S REAR BRG.  
 CAP IN THE ELEC. SPEEDO  
 OUTPUT HOLE.

**MODELS ASO125,140,150,165-10S**  
**RANGE CASE and RELATED PARTS**

**T210-ASO165-10S**

| Ref. No.                                                               | Part No.     | Description                                                           | Qty. |
|------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------|------|
| <b>Range Case Group</b>                                                |              |                                                                       |      |
| J-1                                                                    | 201-15-3-1X  | S/Assy. - Case (Range) (Includes J-1A thru J-6)                       | 1    |
| J-1A                                                                   | N.S.S.       | Case - Range                                                          | 1    |
| J-2                                                                    | NP-96        | Name Plate                                                            | 1    |
| J-3                                                                    | 252-SP       | Pin - Name Plate                                                      | 4    |
| N.S.                                                                   | NP-196       | Patent Plate                                                          | 1    |
| J-4                                                                    | 545123       | Plug - Filler & Drain Magnetic                                        | 2    |
| J-6                                                                    | 201-39-1     | Plug - Temperature Indicator Hole                                     | 1    |
| J-7                                                                    | 330360-7     | Stud - Rear Mounting                                                  | 2    |
| J-8                                                                    | 545001-1     | Screw - Range Case (.500"-13 x 1.375")                                | 16   |
| J-9                                                                    | 545025-1     | Elbow - 90 degree                                                     | 1    |
| <b>Range Piston Housing and Shift Fork Group</b>                       |              |                                                                       |      |
| K-1                                                                    | 201-66-23-2X | S/Assy. - Fork and Rod - Range                                        | 1    |
| K-2                                                                    | 545045       | Nut - Piston Rod - Range                                              | 1    |
| K-3                                                                    | 201-501-2-1X | S/Assy - Piston Housing - Range (Includes K-4 thru K-6)               | 1    |
| K-4                                                                    | N.S.S.       | Housing - Piston - Range                                              | 1    |
| K-5                                                                    | 545025-1     | Elbow - Piston Housing 90 degree                                      | 2    |
| K-6                                                                    | 545002-1     | Screw - Piston Housing (.375"-16 x .875")                             | 4    |
| K-7                                                                    | 201-463-1    | "O" Ring - Piston Shift - Range                                       | 1    |
| K-8                                                                    | 201-463-2    | "O" Ring - Piston Housing - Range                                     | 1    |
| K-9                                                                    | 201-463-3    | "O" Ring - Piston Rod - Range                                         | 1    |
| K-10                                                                   | 183-463-6    | "O" Ring - Piston to Rod - Range                                      | 1    |
| K-11                                                                   | 201-136-7    | Piston - Shift - Range                                                | 1    |
| <b>Countershaft Bearing Cap Group</b>                                  |              |                                                                       |      |
| K-12                                                                   | 201-22-3     | Cap - Countershaft Bearing                                            | 2    |
| K-13                                                                   | 545002-1     | Screw - Bearing Cap (.375"-16 x .875")                                | 6    |
| and                                                                    | 545002-7     | Screw - Bearing Cap (.375"-16 x 1.500")                               | 2    |
| and                                                                    | 330969       | Lift Hook                                                             | 2    |
| K-14                                                                   | 500381-4     | Spacer - Filter Regulator (use (4) nuts)                              | 4    |
| K-15                                                                   | 201-411-1    | Bracket - Filter Regulator                                            | 1    |
| K-16                                                                   | 313644X      | Kit - Power Control and Mounting Parts (Incl.K-17 thru K-19)          | 1    |
| K-17                                                                   | 313042       | S/Assy. - Filter Regulator                                            | 1    |
| K-18                                                                   | 330831       | Clamp - Filter Regulator Mounting                                     | 1    |
| K-19                                                                   | 545025-1     | Elbow - Filter Regulator 90 degree                                    | 1    |
| <b>See page 26 for Countershaft Oil Cooler Pump and related parts.</b> |              |                                                                       |      |
| <b>Rear Bearing Cap Group</b>                                          |              |                                                                       |      |
| L-1                                                                    | 201-19-8-1X  | S/Assy. - Electronic Bearing Cap Rear (Incl.L-2 thru L-5)             | 1    |
| L-2                                                                    | N.S.S.       | Bearing Cap                                                           | 1    |
| L-3                                                                    | 201-463-8    | Seal - Bearing Cap Rear                                               | 1    |
| L-4                                                                    | 545021       | Plug - Electronic Speedometer                                         | 2    |
| L-5                                                                    | 55-334-1     | Plug - Speedometer Outlet                                             | 1    |
| L-6                                                                    | 60-475-1     | Bushing - Speedometer Driven Gear                                     | 1    |
| L-7                                                                    | 201-228-2-1  | Shim - Output Shaft (.005 thick)                                      | A/R  |
| or                                                                     | 201-228-2-2  | Shim - Output Shaft (.010 thick)                                      | A/R  |
| or                                                                     | 201-228-2-3  | Shim - Output Shaft (.015 thick)                                      | A/R  |
| or                                                                     | 201-228-2-4  | Shim - Output Shaft (.020 thick)                                      | A/R  |
| or                                                                     | 201-228-2-5  | Shim - Output Shaft (.030 thick)                                      | A/R  |
| L-8                                                                    | 545002-6     | Screw - Bearing Cap Rear (.375"-16 x .250")                           | 4    |
| EC-7                                                                   | 201-600-5    | Speed Output Sensor (Use no subs. or equivs. without Spicer approval) | 1    |

A/R - As Required

N.S. - Not Shown

N.S.S. - Not Sold Separately

**Recommended end play for Rear Mainshaft is .001" - .008"**

**T210-AS0165-10S**



**MODELS ASO125,140,150,165-10S  
SHIFT TOWER and RELATED PARTS**

**T210-ASO165-10S**

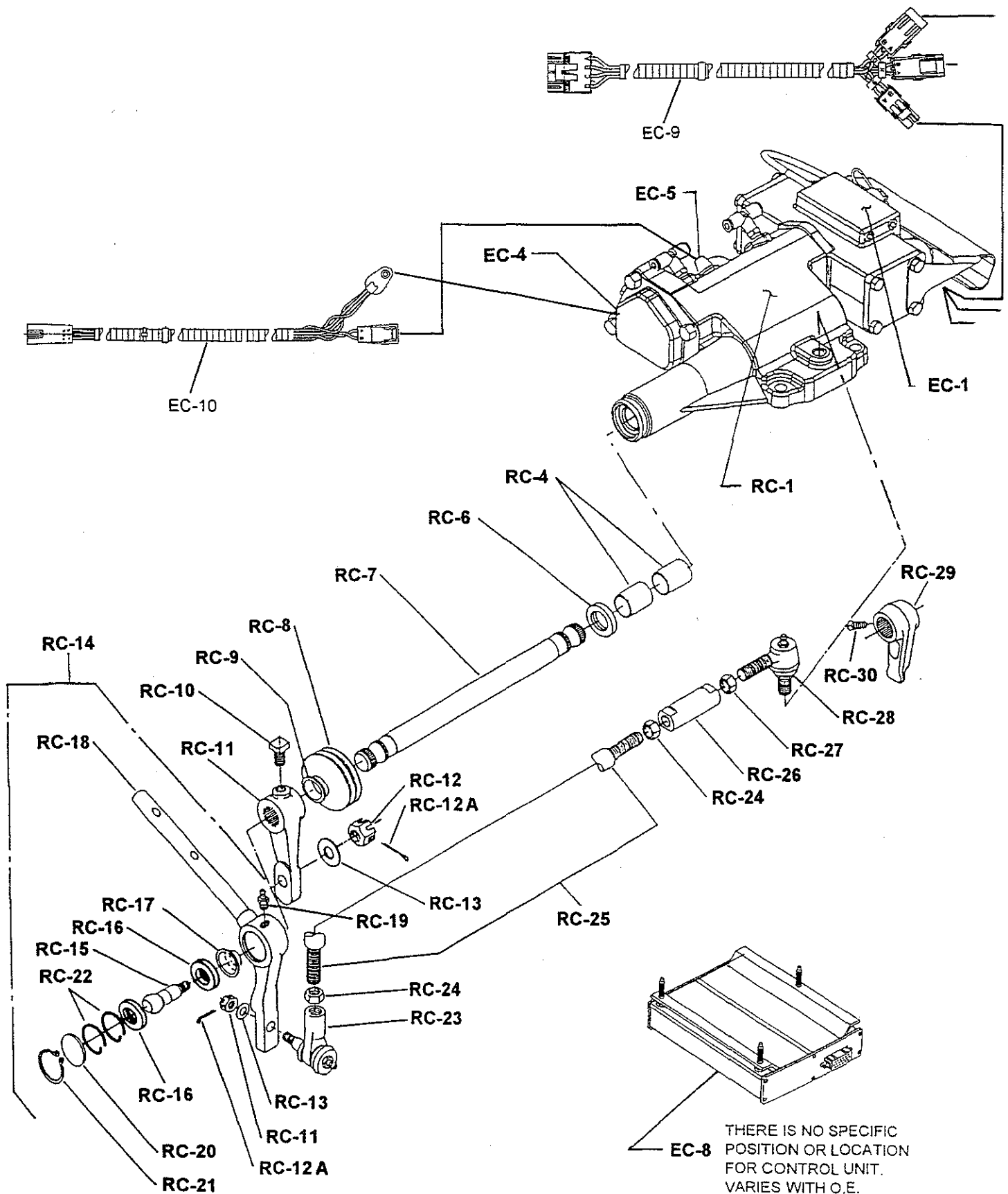
| <b>Ref.<br/>No.</b> | <b>Part No.</b>     | <b>Description</b>                                                      | <b>Qty.</b> |
|---------------------|---------------------|-------------------------------------------------------------------------|-------------|
| N.S.                | <b>See Chart</b>    | <b>Shift Lever and Tower Assembly (includes P-1 thru P-22)</b>          | <b>1</b>    |
| P-1                 | <b>201-420-5-1X</b> | Harness - Air Tubing (48" long)                                         | 1           |
| or                  | <b>201-420-5-2X</b> | Harness - Air Tubing (92" long for Remote Control use)                  | 1           |
| P-2                 | <b>97-463-7</b>     | "O" Ring - Retaining Air Harness                                        | 3           |
| P-3                 | <b>201-483-3</b>    | Boot - Floorboard (Oval)                                                | 1           |
| or                  | <b>201-483-4</b>    | Boot - Floorboard (Oval)                                                | 1           |
| or                  | <b>201-483-5</b>    | Boot - Floorboard (Rectangular)                                         | 1           |
| N.S.                | <b>313649-1X</b>    | <b>Shift Knob Assy. (includes P-4 thru P-10)</b>                        | <b>1</b>    |
| P-4                 | <b>201-20-11</b>    | Insert - Shift Pattern                                                  | 1           |
| P-5                 | <b>500370-4</b>     | Nut - Shift Knob Retaining                                              | 1           |
| P-6                 | <b>500357-13</b>    | Washer - Shift Knob Retaining                                           | 1           |
| P-7                 | <b>204-W</b>        | Washer - Shift Knob Stop                                                | 1           |
| P-8                 | <b>N.S.S.</b>       | Knob - Shift Air Valve (Serviced as 313649-1X)                          | 1           |
| P-9                 | <b>201-205-1</b>    | Index Washer                                                            | 1           |
| P-10                | <b>201-438-8</b>    | Roll Pin - Shift Knob                                                   | 1           |
| P-16                | <b>101-483-2</b>    | Boot - Shift Tower & Lever                                              | 1           |
| N.S.                | <b>33Q-15-1</b>     | Tie - Cable (Upper)                                                     | 1           |
| N.S.                | <b>33Q-15-2</b>     | Tie - Cable (Lower)                                                     | 1           |
| P-17                | <b>97-381-11</b>    | Snap Ring                                                               | 1           |
|                     | <b>312477-46X</b>   | Kit - Inner/Outer Rings and Spring Disc                                 | 1           |
| P-18                | <b>N.S.S.</b>       | Ring - Outer                                                            | 2           |
| P-19                | <b>N.S.S.</b>       | Ring - Inner                                                            | 2           |
| P-20                | <b>See Chart</b>    | Shift Lever (Page 13)                                                   | 1           |
| P-21                | <b>N.S.S.</b>       | Spring - Disc                                                           | 2           |
| P-22                | <b>See Chart</b>    | Shift Tower Housing (Long) (6.312 Fulcrum)                              | 1           |
| or                  | <b>See Chart</b>    | Shift Tower Housing (Short) (5.312 Fulcrum)                             | 1           |
| P-25                | <b>201-155-3</b>    | Gasket - Shift Tower Housing (Not included with Sub-Assy)               | 1           |
| P-26                | <b>545028-2</b>     | Screw - Shift Tower Housing/Lower Tower Assy. (Not incl. with Sub-Assy) | 7           |
| EC-1                | <b>201-17-8-1X</b>  | <b>Lower Tower Assembly (Forward Control)</b>                           | <b>1</b>    |
| or                  | <b>201-17-8-2X</b>  | <b>Lower Tower Assembly (Center Control)</b>                            | <b>1</b>    |
| EC-2                | <b>201-118-2</b>    | Gasket - Shift Tower Housing (Not included with Sub-Assy)               | 1           |
| N.S.                | <b>312268</b>       | Breather                                                                | 1           |
| EC-4                | <b>201-16-2</b>     | Cover - End Plate                                                       | 1           |
| EC-5                | <b>201-620-3</b>    | Auto Switch                                                             | 1           |
| EC-7                | <b>201-600-5</b>    | Speed Output Sensor (Use no subs. or equivs. without Spicer approval)   | 1           |
| EC-8                | <b>201-600-2-1X</b> | Electronic Control Unit                                                 | 1           |
| EC-9                | <b>201-615-1</b>    | Harness - Shift Valves Integrated                                       | 1           |
| EC-10               | <b>201-615-2</b>    | Harness - Gear Switchs (Gear Position Sensor, Auto Switch)              | 1           |

N.S. - Not Shown

N.S.S. - Not Sold Separately

**MODELS ASO125,140,150,165-10S**  
**REMOTE CONTROL and RELATED PARTS**

**T210-ASO165-10S**





**MODELS ASO125,140,150,165-10S**  
**REMOTE CONTROL and RELATED PARTS**

**T210-ASO165-10S**

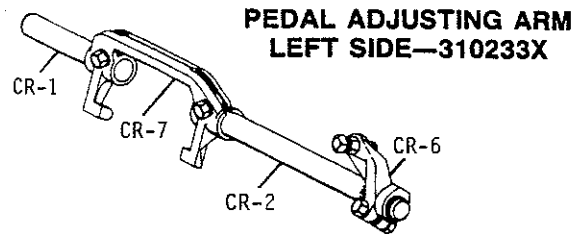
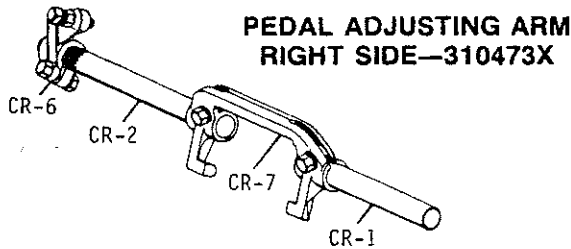
| Ref. No.                                        | Part No.     | Description                                                  | Qty. |
|-------------------------------------------------|--------------|--------------------------------------------------------------|------|
| RC-1                                            | 201-18-10-1X | S/Assy. - Remote Control Housing, Bushings and Ball Joint    | 1    |
| RC-2                                            | N.S.S.       | Remote Control Housing                                       | 1    |
| RC-3                                            | 312268       | Breather Assembly                                            | 1    |
| RC-4                                            | 40-24-1      | Bushing - Remote Control Housing                             | 2    |
| RC-6                                            | 28P-19       | Seal - Remote Control Housing                                | 1    |
| EC-1                                            | 201-501-9-1X | Actuator Housing Sub-Assy.                                   | 1    |
| EC-4                                            | 201-16-2     | Cover - End Plate                                            | 1    |
| EC-5                                            | 201-620-3    | Auto Switch                                                  | 1    |
| EC-8                                            | 201-600-2-1X | Electronic Control Unit                                      | 1    |
| EC-9                                            | 201-615-1    | Harness - Shift Valves Integrated                            | 1    |
| EC-10                                           | 201-615-2    | Harness - Gear Switches                                      | 1    |
| RC-7                                            | 201-65-1     | Rod - Inner Shift Control                                    | 1    |
| RC-8                                            | 97-483-3     | Boot - Shift Rod Rubber                                      | 1    |
| RC-9                                            | 33Q-15-1     | Tie - Cable                                                  | 2    |
| RC-10                                           | 545136       | Bolt - Outer Shift Lever                                     | 1    |
| RC-11                                           | 201-6-3      | Lever - Remote Outer Shift Control                           | 1    |
| RC-12                                           | 500371-3     | Nut - Ball Stud                                              | 2    |
| RC-13                                           | 500362-11    | Lock Washer                                                  | 2    |
| RC-14                                           | 201-6-8-1X   | S/Assy. - Selector Lever and Arm (Includes RC-15 thru RC-22) | 1    |
| RC-15                                           | 545117       | Ball - Stud Selection Lever                                  | 1    |
| RC-17                                           | 201-483-2    | Boot - Selection Lever                                       | 1    |
| RC-18                                           | N.S.S.       | Lever - Selection                                            | 1    |
| N.S.                                            | 313727X      | Kit - Grease Parts (Includes RC-16, 19, 20, and 22)          | 1    |
| RC-16                                           | N.S.S.       | Bearing - Race Selector Lever                                | 2    |
| RC-19                                           | N.S.S.       | Nipple - Selection Lever                                     | 1    |
| RC-20                                           | N.S.S.       | Retainer - Selection Lever                                   | 1    |
| RC-22                                           | N.S.S.       | Spring - Disc Selection Lever                                | 2    |
| RC-21                                           | 201-381-4    | Snap Ring - Selection Lever                                  | 1    |
| RC-23                                           | 313673       | Ball Joint - Female                                          | 1    |
| RC-24                                           | 545114       | Jam Nut - Turnbuckle                                         | 2    |
| RC-25                                           | 201-65-3     | Tie Rod                                                      | 1    |
| RC-26                                           | 73Q-2        | Turn Buckle                                                  | 1    |
| RC-27                                           | 545113       | Jam Nut - Turnbuckle (Left Hand)                             | 1    |
| RC-28                                           | 313715       | Ball Joint - Male (.500-13 UNC thread on end into Housing)   | 1    |
| RC-29                                           | 201-6-2      | Finger - Inner Shift                                         | 1    |
| RC-30                                           | 545137       | Screw - Shift Finger                                         | 1    |
| Parts Listed Below are not Included in Assembly |              |                                                              |      |
| N.S.                                            | 545028-2     | Screw - Control Housing (.438"-14 x 1.500")                  | 6    |
| N.S.                                            | 201-118-2    | Gasket - Control (between Case and Control)                  | 1    |

N.S. - Not Shown

N.S.S. - Not Sold Separately

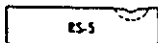
# **MODELS ASO125,140,150,165-10S** **CLUTCH RELEASE CODE TABLE**

**T210-ASO165-10S**



## **CR-1 SHORT SHAFT**

| Part No.  | Length |
|-----------|--------|
| 106C-1071 | 4.062" |
| 106C-1141 | 5.125" |
| 106C-1142 | 6.125" |
| 106C-1185 | 5.750" |
| 106C-1216 | 4.750" |
| 106C-1278 | 4.812" |
| 106C-1360 | 5.312" |
| 106C-1375 | 6.781" |
| 106C-1498 | 6.500" |
| 106C-1544 | 7.000" |
| 330601-1  | 6.250" |



## **CR-2 LONG SHAFT**

| Part No.  | Type | Length  |
|-----------|------|---------|
| 106C-438  | RS-5 | 14.000" |
| 106C-588  | RS-5 | 7.000"  |
| 106C-617  | RS-8 | 10.469" |
| 106C-839  | RS-8 | 11.469" |
| 106C-939  | RS-8 | 10.000" |
| 106C-953  | RS-8 | 9.750"  |
| 106C-959  | RS-8 | 11.968" |
| 106C-960  | RS-8 | 8.719"  |
| 106C-1046 | RS-8 | 8.968"  |
| 106C-1047 | RS-8 | 9.469"  |

## **CR-2 LONG SHAFT (Cont'd)**

| Part No.  | Type | Length  |
|-----------|------|---------|
| 106C-1083 | RS-8 | 7.969"  |
| 106C-1094 | RS-8 | 8.469"  |
| 106C-1123 | RS-8 | 12.968" |
| 106C-1169 | RS-8 | 9.125"  |
| 106C-1315 | RS-8 | 7.625"  |
| 106C-1367 | RS-8 | 10.312" |
| 106C-1375 | RS-8 | 6.781"  |
| 106C-1417 | RS-8 | 7.250"  |
| 106C-1422 | RS-8 | 7.500"  |
| 106C-1490 | RS-8 | 16.000" |
| 106C-1515 | RS-5 | 11.375" |
| 106C-1529 | RS-5 | 8.312"  |
| 330610-5  | RS-8 | 9.469"  |
| 330610-11 | RS-8 | 10.750" |
| 46-510-9  | RS-5 | 7.125"  |
| 330610-10 | RS-8 | 9.500"  |

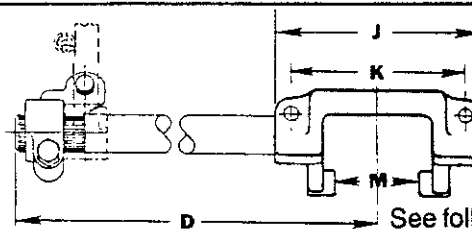
## **CR-6 PEDAL ADJ. ARM**

|              |                     |
|--------------|---------------------|
| 310233X      | For Left Side Mtg.  |
| 310473X      | For Right Side Mtg. |
| 47-526-1-1X* | Lever Type 7 1/4"   |
| 310873X*     | Lever Type 7 1/4"   |

\*Lever type can be used on either right or left side.

## **THRU SHAFT (used with Push Type Clutch)**

| Part No.  | Type    | Length  |
|-----------|---------|---------|
| 106C-1566 | Splined | 19.125" |
| 106C-1550 | Keyed   | 16.375" |
| 106C-1558 | Keyed   | 19.000" |
| 106C-1578 | Splined | 19.500" |
| 49-510-1  | Keyed   | 19.120" |
| 97-510-2  | Splined | 19.313" |



See following page for "D" dimensions.

## **CLUTCH RELEASE YOKES**

| CR-7                  | Forging No. | Used With         | Type | J      | K      | M      |
|-----------------------|-------------|-------------------|------|--------|--------|--------|
| 105C-64               | F105C64     | Spicer 15 1/2" SP | Pull | 8.000" | 6.500" | 4.895" |
| 105C-68               | F105C99     | Spicer 14" SP     | Pull | 7.125" | 5.750" | 4.132" |
| 105C-117 <sup>1</sup> | F105C118    | Spicer & Others   | Push | 8.375" | 7.000" | 4.885" |
| 105C-124 <sup>2</sup> | F105C125    | Spicer AL & AR    | Push | 3.750" | 2.125" | 2.885" |
| 105C-132 <sup>2</sup> | F105C118    | Spicer & Others   | Push | 8.375" | 7.000" | 4.885" |
| 105C-137              | F105C138    | Spicer 13" and    | Pull | 8.000" | 6.500" | 4.895" |
|                       | C105C138    | 14" 2P            |      |        |        |        |
| 85-509-3 <sup>3</sup> | F105C118    | Spicer & Others   | Push | 8.375" | 7.000" | 4.885" |

<sup>1</sup>Machined washer surface on yoke front

<sup>2</sup>Machined washer surface on yoke rear (for clearance)

<sup>3</sup>Same as <sup>1</sup> above except contains spring holes in lugs

■ Use 7743X Clutch Release Bearing and (2) 2306-12 Springs.

## **★ CLUTCH RELEASE YOKE ATTACHING PARTS—**

Use one KEY 10-30, two SCREWS 330231 and two LOCK WASHERS 500356-12

NOTE: When changing from a two plate to single plate clutch or vice versa, a different bearing cap will be required.

# MODELS ASO125,140,150,165-10S

## CLUTCH RELEASE CODE TABLE

T210-ASO165-10S

| Rel.Code<br>See<br>Tab Bill | CR-7<br>Yoke * | Shaft      |           | Adjustable<br>Arm | D<br>Dim.<br>(In.) | Rel.Code<br>See<br>Tab Bill | CR-7<br>Yoke * | Shaft      |           | Adjustable<br>Arm | D<br>Dim.<br>(In.) |
|-----------------------------|----------------|------------|-----------|-------------------|--------------------|-----------------------------|----------------|------------|-----------|-------------------|--------------------|
|                             |                | CR-1 Short | CR-2 Long |                   |                    |                             |                | CR-1 Short | CR-2 Long |                   |                    |
|                             | 105C-64        | 106C-1142  | 106C-1047 | 310233X           | 11.969             | 60                          | 105C-137       | 106C-1185  | 106C-617  | 310233X           | 12.969             |
|                             | 105C-64        | 106C-1185  | 106C-438  | —                 | 16.500             | 61                          | 105C-137       | 106C-1185  | 106C-839  | 310233X           | 13.969             |
|                             | 105C-64        | 106C-1185  | 106C-939  | 310233X           | 12.500             | 62                          | 105C-137       | 106C-1185  | 106C-939  | 310233X           | 12.500             |
| 4                           | 105C-64        | 106C-1185  | 106C-1046 | 310233X           | 11.468             | 63                          | 105C-137       | 106C-1185  | 106C-939  | 310473X           | 12.500             |
| 5                           | 105C-64        | 106C-1185  | 106C-1047 | 310233X           | 11.969             | 64                          | 105C-137       | 106C-1185  | 106C-953  | 310473X           | 12.250             |
| 6                           | 105C-64        | 106C-1185  | 106C-1047 | 47-526-1-1X       | 11.969             | 65                          | 105C-137       | 106C-1185  | 106C-1046 | 310233X           | 11.468             |
| 7                           | 105C-64        | 106C-1544  | 106C-839  | 310233X           | 13.969             | 66                          | 105C-137       | 106C-1185  | 106C-1046 | 310473X           | 11.468             |
| 8                           | 105C-68        | 106C-1142  | 106C-438  | —                 | 16.125             | 67                          | 105C-137       | 106C-1185  | 106C-1047 | 310233X           | 11.969             |
| 9                           | 105C-68        | 106C-1142  | 106C-617  | —                 | 12.594             | 68                          | 105C-137       | 106C-1185  | 106C-1083 | 310233X           | 10.469             |
| 10                          | 105C-68        | 106C-1142  | 106C-617  | 310233X           | 12.594             | 69                          | 105C-137       | 106C-1185  | 106C-1094 | —                 | 10.969             |
| 11                          | 105C-68        | 106C-1142  | 106C-839  | 310233X           | 13.594             | 70                          | 105C-137       | 106C-1185  | 106C-1094 | 310233X           | 10.969             |
| 12                          | 105C-68        | 106C-1142  | 106C-939  | 310233X           | 12.125             | 71                          | 105C-137       | 106C-1185  | 106C-1123 | —                 | 15.468             |
| 13                          | 105C-68        | 106C-1142  | 106C-1046 | 310233X           | 11.093             | 72                          | 105C-137       | 106C-1185  | 106C-1123 | 310233X           | 15.468             |
| 14                          | 105C-68        | 106C-1142  | 106C-1047 | 310233X           | 11.594             | 73                          | 105C-137       | 106C-1185  | 106C-1367 | —                 | 12.812             |
| 15                          | 105C-68        | 106C-1278  | 106C-438  | —                 | 16.125             | 74                          | 105C-137       | 106C-1185  | 106C-1367 | 310233X           | 12.812             |
| 15A                         | 105C-68        | 106C-1278  | 106C-939  | 310473X           | 12.125             | 75                          | 105C-137       | 106C-1185  | 106C-1375 | 310873X           | 9.281              |
| 15B                         | 105C-68        | 106C-1278  | 106C-939  | 310233X           | 12.125             | 76                          | 105C-137       | 106C-1185  | 106C-1515 | —                 | 13.875             |
| 16                          | 105C-117       | 106C-1071  | 106C-939  | 310233X           | 12.750             | 77                          | 105C-137       | 106C-1185  | 106C-1529 | —                 | 10.812             |
| 7                           | 105C-117       | 106C-1071  | 106C-1094 | 310233X           | 11.219             | 78                          | 105C-137       | 106C-1185  | 330610-5  | —                 | 11.969             |
| 8                           | 105C-117       | 106C-1142  | 106C-939  | 310233X           | 12.750             | 78A                         | 105C-137       | 106C-1185  | 46-510-9  | —                 | 9.625              |
| 19                          | 105C-117       | 106C-1185  | 106C-438  | —                 | 16.750             | 79                          | 105C-137       | 106C-1216  | 106C-617  | 310233X           | 12.969             |
| 20                          | 105C-117       | 106C-1185  | 106C-617  | 310233X           | 13.219             | 80                          | 105C-137       | 106C-1278  | 106C-438  | —                 | 16.500             |
| 21                          | 105C-117       | 106C-1185  | 106C-839  | 47-526-1-1X       | 14.219             | 81                          | 105C-137       | 106C-1278  | 106C-588  | —                 | 9.500              |
| 22                          | 105C-117       | 106C-1185  | 106C-939  | 310233X           | 12.750             | 82                          | 105C-137       | 106C-1278  | 106C-588  | 310233X           | 9.500              |
| 23                          | 105C-117       | 106C-1185  | 106C-953  | 310873X           | 12.500             | 83                          | 105C-137       | 106C-1278  | 106C-617  | 310233X           | 12.969             |
| 24                          | 105C-117       | 106C-1185  | 106C-960  | 310233X           | 11.469             | 84                          | 105C-137       | 106C-1278  | 106C-939  | 310233X           | 12.500             |
| 25                          | 105C-117       | 106C-1185  | 106C-1046 | 310233X           | 11.718             | 84A                         | 105C-137       | 106C-1278  | 106C-939  | 310473X           | 12.500             |
| 26                          | 105C-117       | 106C-1185  | 106C-1047 | 310233X           | 12.219             | 85                          | 105C-137       | 106C-1278  | 106C-939  | 310873X           | 12.500             |
| 27                          | 105C-117       | 106C-1185  | 106C-1083 | —                 | 10.719             | 86                          | 105C-137       | 106C-1278  | 106C-960  | 310233X           | 11.219             |
| 28                          | 105C-117       | 106C-1185  | 106C-1083 | 310233X           | 10.719             | 87                          | 105C-137       | 106C-1278  | 106C-1046 | —                 | 11.468             |
| 29                          | 105C-117       | 106C-1185  | 106C-1083 | 310473X           | 10.719             | 88                          | 105C-137       | 106C-1278  | 106C-1046 | 310233X           | 11.468             |
| 30                          | 105C-117       | 106C-1185  | 106C-1094 | 310233X           | 11.219             | 89                          | 105C-137       | 106C-1278  | 106C-1047 | —                 | 11.969             |
| 31                          | 105C-117       | 106C-1185  | 106C-1094 | 310873X           | 11.219             | 90                          | 105C-137       | 106C-1278  | 106C-1047 | 310233X           | 11.969             |
| 32                          | 105C-117       | 106C-1185  | 106C-1169 | 310233X           | 11.875             | 91                          | 105C-137       | 106C-1278  | 106C-1083 | 310233X           | 10.469             |
| 33                          | 105C-117       | 106C-1185  | 106C-1315 | —                 | 10.375             | 91A                         | 105C-137       | 106C-1278  | 106C-1083 | 310473X           | 10.469             |
| 34                          | 105C-117       | 106C-1185  | 106C-1315 | 310233X           | 10.375             | 92                          | 105C-137       | 106C-1278  | 106C-1094 | 310233X           | 10.969             |
| 35                          | 105C-117       | 106C-1185  | 106C-1315 | 47-526-1-1X       | 10.375             | 92A                         | 105C-137       | 106C-1278  | 106C-1315 | 310233X           | 10.125             |
| 35A                         | 105C-117       | 106C-1185  | 106C-1375 | 310873X           | 9.531              | 93                          | 105C-137       | 106C-1278  | 106C-1375 | 310233X           | 9.281              |
| 36                          | 105C-117       | 106C-1185  | 106C-1417 | 310233X           | 10.000             | 94                          | 105C-137       | 106C-1278  | 106C-1422 | 310233X           | 10.000             |
| 37                          | 105C-117       | 106C-1185  | 106C-1417 | 310873X           | 10.000             | 95                          | 105C-137       | 106C-1278  | 106C-1529 | —                 | 10.812             |
| 38                          | 105C-117       | 106C-1185  | 106C-1490 | 310233X           | 18.750             | 96                          | 105C-137       | 106C-1360  | 106C-1083 | —                 | 10.469             |
| 39                          | 105C-117       | 106C-1278  | 106C-939  | 310233X           | 12.750             | 96A                         | 105C-137       | 106C-1360  | 106C-1417 | 310233X           | 9.750              |
| 40                          | 105C-117       | 106C-1278  | 106C-960  | 310873X           | 11.469             | 97                          | 105C-137       | 106C-1360  | 106C-1422 | 310233X           | 10.000             |
| 41                          | 105C-117       | 106C-1278  | 106C-1047 | 310233X           | 12.219             | 98                          | 105C-137       | 106C-1375  | 106C-438  | 310233X           | 16.500             |
| 42                          | 105C-117       | 106C-1278  | 106C-1094 | 310233X           | 11.219             | 99                          | 105C-137       | 106C-1498  | 106C-438  | —                 | 16.500             |
| 43                          | 105C-117       | 106C-1278  | 106C-1315 | 310233X           | 10.375             | 100                         | 105C-137       | 106C-1498  | 106C-617  | 310233X           | 12.969             |
| 44                          | 105C-117       | 106C-1278  | 106C-1367 | 310233X           | 13.062             | 101                         | 105C-137       | 106C-1498  | 106C-617  | 310473X           | 12.969             |
| 45                          | 105C-117       | 106C-1360  | 106C-1083 | 310233X           | 10.719             | 102                         | 105C-137       | 106C-1498  | 106C-939  | 310233X           | 12.500             |
| 46                          | 105C-117       | 106C-1360  | 106C-1315 | 310233X           | 10.375             | 103                         | 105C-137       | 106C-1498  | 106C-939  | 310473X           | 12.500             |
| 46A                         | 105C-117       | 106C-1360  | 330610-10 | —                 | 12.250             | 104                         | 105C-137       | 106C-1498  | 106C-953  | 310233X           | 12.250             |
| 47                          | 105C-117       | Thru Shaft | 106C-1550 | —                 | —                  | 105                         | 105C-137       | 106C-1498  | 106C-959  | 310233X           | 14.468             |
| 48                          | 105C-117       | Thru Shaft | 106C-1558 | —                 | —                  | 106                         | 105C-137       | 106C-1498  | 106C-1046 | 310233X           | 11.468             |
| 49                          | 105C-124       | 106C-1185  | 106C-438  | —                 | 14.313             | 107                         | 105C-137       | 106C-1498  | 106C-1047 | —                 | 11.969             |
| 50                          | 105C-124       | Thru Shaft | 106C-1566 | 310233X           | —                  | 108                         | 105C-137       | 106C-1498  | 106C-1047 | 310233X           | 11.969             |
| 51                          | 105C-124       | Thru Shaft | 106C-1566 | 310473X           | —                  | 109                         | 105C-137       | 106C-1498  | 106C-1083 | 310233X           | 10.469             |
| 52                          | 105C-124       | Thru Shaft | 106C-1566 | 310873X           | —                  | 110                         | 105C-137       | 106C-1498  | 106C-1094 | —                 | 10.969             |
| 52A                         | 105C-124       | Thru Shaft | 49-510-1  | 310233X           | —                  | 111                         | 105C-137       | 106C-1498  | 330610-11 | 310233X           | 13.250             |
| 53                          | 105C-132       | 106C-1185  | 106C-1047 | 310233X           | 9.782              | 112                         | 105C-137       | 330601-1   | 106C-939  | 310233X           | 12.500             |
| 54                          | 105C-132       | 106C-1185  | 106C-1083 | 310233X           | 8.282              | 112A                        | 85-509-3       | 106C-1278  | 106C-939  | 310233X           | 12.750             |
| 55                          | 105C-132       | 106C-1185  | 106C-1417 | 310873X           | 7.563              | 113                         | 85-509-3       | 106C-1360  | 106C-1417 | 310233X           | 10.000             |
| 56                          | 105C-132       | 106C-1185  | 46-510-9  | —                 | 7.438              | 114                         | 85-509-3       | Thru Shaft | 106C-1578 | 310233X           | —                  |
| 57                          | 105C-132       | 106C-1278  | 46-510-9  | —                 | 7.438              | 114A                        | 85-509-3       | Thru Shaft | 106C-1578 | 310473X           | —                  |
| 58                          | 105C-137       | 106C-1141  | 106C-1169 | 310233X           | 11.625             | 115                         | 85-509-3       | Thru Shaft | 106C-1578 | 310873X           | —                  |
| 59                          | 105C-137       | 106C-1185  | 106C-438  | —                 | 16.500             | 116                         | 312916         | Thru Shaft | 97-510-2  | —                 | —                  |

e 7743X Clutch Release Bearing and (2) 2306-12 Springs.

**MODELS ASO125,140,150,165-10S**  
**SERVICE PARTS OVERHAUL KITS**

**T210-ASO165-10S**

| Part No.            | Description                                                | Qty. |
|---------------------|------------------------------------------------------------|------|
| <b>313400-76X</b>   | <b>Major Overhaul Kit</b>                                  |      |
| <b>313432-33X</b>   | Kit - Minor Overhaul                                       | 1    |
| <b>313669X</b>      | Kit - Range Piston Housing Repair                          | 1    |
| <b>313429-23X</b>   | Kit - Shift Tower Repair Parts                             | 1    |
| <b>201-35-2</b>     | Shaft - Input (2.000"-10 spline #306 (1.180" dia.) Pilot)  | 1    |
| <b>201-210-4-1</b>  | Key - Countershaft Gear Rear                               | 2    |
| <b>201-210-4-2</b>  | Key - Countershaft Gear Middle                             | 2    |
| <b>201-210-4-3</b>  | Key - Countershaft Gear Front                              | 2    |
| <b>201-438-6-1X</b> | Kit - Overdrive Shift Fork Mounting Pin and Snap Ring      | 1    |
| <b>201-438-7-1X</b> | Kit - Overdrive Shift Fork Bracket Pin and Snap Ring       | 1    |
| <b>201-47-4</b>     | Washer - Output Shaft Thrust (Range)                       | 1    |
| <b>201-47-6</b>     | Ring - Range Mainshaft Drive Gear Thrust                   | 1    |
| <b>330955</b>       | Washer - Countershaft Reverse Idler Thrust (Range)         | 2    |
| <b>500007-24</b>    | Key - Woodruff PTO Gear                                    | 2    |
| <b>545065</b>       | Nut - Mainshaft                                            | 1    |
| <b>313432-33X</b>   | <b>Minor Overhaul Kit (Included in Major Overhaul Kit)</b> | 1    |
| <b>2783</b>         | Bulletin - Mainshaft nut (Loctite Application)             | 1    |
| <b>312475-45X</b>   | Kit - Gasket                                               | 1    |
| <b>313667X</b>      | Kit - Shim                                                 | 1    |
| <b>201-381-1</b>    | Ring - Snap Input Shaft                                    | 1    |
| <b>201-381-3</b>    | Ring - Snap Mainshaft Range Drive Gear                     | 1    |
| <b>201-463-8</b>    | Seal - Output Shaft Rear Bearing Cap                       | 1    |
| <b>545080-1</b>     | Anaerobic Sealant - Mainshaft Nut (0.5 cc vial)            | 1    |
| <b>97-463-36-1X</b> | Oil Seal - Drive Gear Bearing Cap (w/ Installation Tool)   | 1    |
|                     | <b>Bearings - Range Section</b>                            |      |
| <b>313628X</b>      | S/Assy. - Bearing and Spacer Output Shaft                  | 1    |
| <b>313668X</b>      | Kit - Output Shaft Gear Needle Bearing                     | 1    |
| <b>550996</b>       | Bearing - Countershaft Front                               | 2    |
| <b>551009</b>       | Bearing - Countershaft Rear                                | 2    |
|                     | <b>Bearings - Main Section</b>                             |      |
| <b>313645X</b>      | S/Assy. - Bearing and Belleville Snap Ring (Input Shaft)   | 1    |
| <b>550182</b>       | Bearing - Countershaft Rear Cone                           | 2    |
| <b>550375</b>       | Bearing - Countershaft Rear Cup                            | 4    |
| <b>551013</b>       | Bearing - Countershaft Front Cone                          | 2    |
| <b>550997</b>       | Bearing - Reverse Idler Needle                             | 2    |

BSSN - Before Starting Serial Number  
 ASSN - After Starting Serial Number

**MODELS ASO125,140,150,165-10S**  
**SERVICE PARTS OVERHAUL KITS**

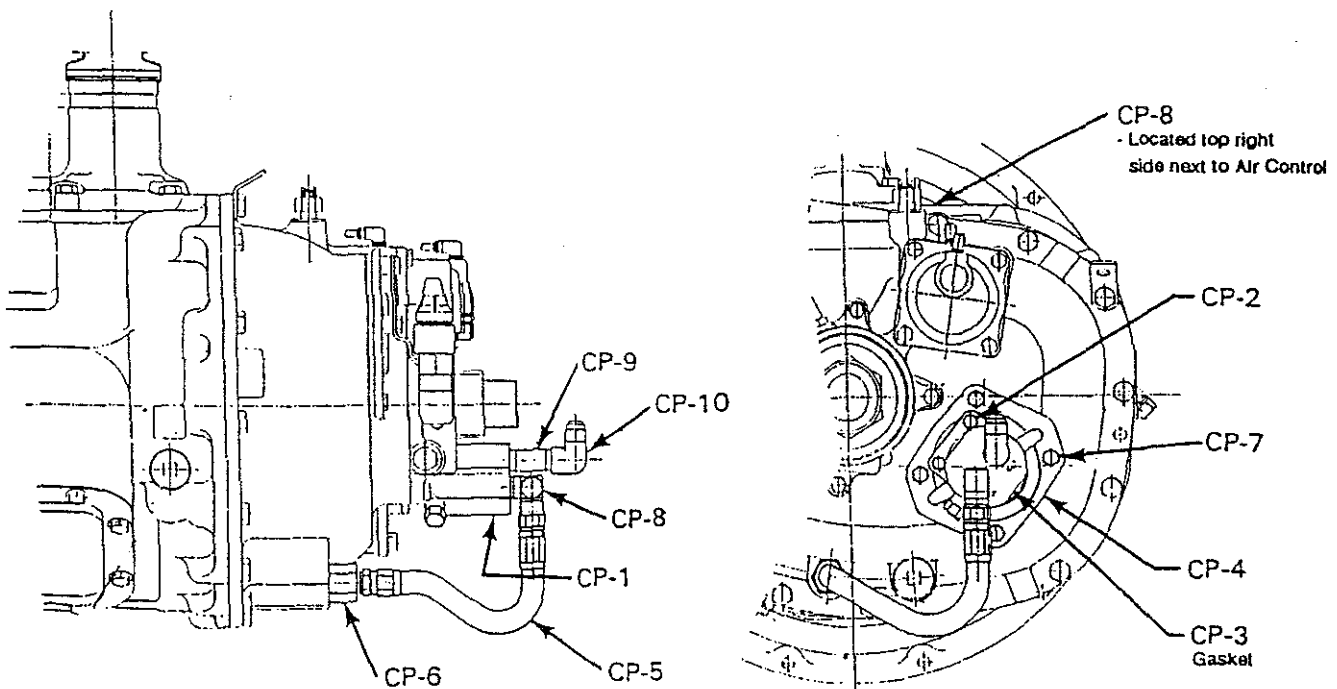
**T210-ASO165-10S**

| Part No.           | Description                                                                            | Qty.     |
|--------------------|----------------------------------------------------------------------------------------|----------|
| <b>313669X</b>     | <b>Kit - Range Piston Housing Repair</b><br><b>(Included in Major Overhaul Kit)</b>    | <b>1</b> |
| <b>183-463-6</b>   | "O"-Ring - Splitter or Range Piston                                                    | <b>1</b> |
| <b>201-463-1</b>   | "O"-Ring - Range Shift Piston                                                          | <b>1</b> |
| <b>201-463-2</b>   | "O"-Ring - Range Piston Housing                                                        | <b>1</b> |
| <b>201-463-3</b>   | "O"-Ring - Range Piston Rod                                                            | <b>1</b> |
| <b>2726</b>        | Bulletin - "O" Ring Lubrication Instruction                                            | <b>1</b> |
| <b>330895</b>      | Lubricant - "O" Ring                                                                   | <b>1</b> |
| <b>313429-23X</b>  | <b>Kit - Shift Tower Small Parts Repair</b><br><b>(Included in Major Overhaul Kit)</b> | <b>1</b> |
| <b>201-438-2</b>   | Pin - Actuating Back-up Light                                                          | <b>1</b> |
| <b>201-438-5</b>   | Pin - Air Control Valve                                                                | <b>3</b> |
| <b>201-487-1</b>   | Insert - Poppett Spring and Ball                                                       | <b>3</b> |
| <b>201-72-2</b>    | Spring - Shift Rail Poppet                                                             | <b>3</b> |
| <b>201-80-1</b>    | Ball - Poppet                                                                          | <b>3</b> |
| <b>40-438-1</b>    | Pin - 1st and Reverse Select Plunger                                                   | <b>2</b> |
| <b>201-72-6</b>    | Spring - 1st and Reverse Shift Plunger                                                 | <b>2</b> |
| <b>312475-45X</b>  | <b>Gasket Kit (Included in Major and Minor Overhaul Kit)</b>                           | <b>1</b> |
| <b>201-118-1</b>   | Gasket - Williams Air Control Valve                                                    | <b>1</b> |
| <b>201-118-2</b>   | Gasket - Tower Housing                                                                 | <b>1</b> |
| <b>2824</b>        | Bulletin - Anaerobic Sealant Application                                               | <b>1</b> |
| <b>545056-10</b>   | Anaerobic Sealant - 24cc Tube                                                          | <b>1</b> |
| <b>313667X</b>     | <b>Shim Kit (Included in Major and Minor Overhaul Kit)</b>                             | <b>1</b> |
| <b>2825</b>        | Bulletin - Countershaft Shim Instructions                                              | <b>1</b> |
| <b>201-228-1-1</b> | Shim - Countershaft Rear Bearing (.005" thick)                                         | <b>4</b> |
| <b>201-228-1-2</b> | Shim - Countershaft Rear Bearing (.010" thick)                                         | <b>4</b> |
| <b>201-228-1-3</b> | Shim - Countershaft Rear Bearing (.015" thick)                                         | <b>4</b> |
| <b>201-228-1-4</b> | Shim - Countershaft Rear Bearing (.020" thick)                                         | <b>4</b> |
| <b>201-228-1-5</b> | Shim - Countershaft Rear Bearing (.030" thick)                                         | <b>4</b> |
| <b>201-228-2-1</b> | Shim - Output Shaft (.005" thick)                                                      | <b>1</b> |
| <b>201-228-2-2</b> | Shim - Output Shaft (.010" thick)                                                      | <b>1</b> |
| <b>201-228-2-3</b> | Shim - Output Shaft (.015" thick)                                                      | <b>1</b> |
| <b>201-228-2-4</b> | Shim - Output Shaft (.020" thick)                                                      | <b>1</b> |
| <b>201-228-2-5</b> | Shim - Output Shaft (.030" thick)                                                      | <b>1</b> |

**MODELS ASO125,140,150,165-10S**  
**Oil Cooler and Pump Diagram**

**T210-ASO165-10S**

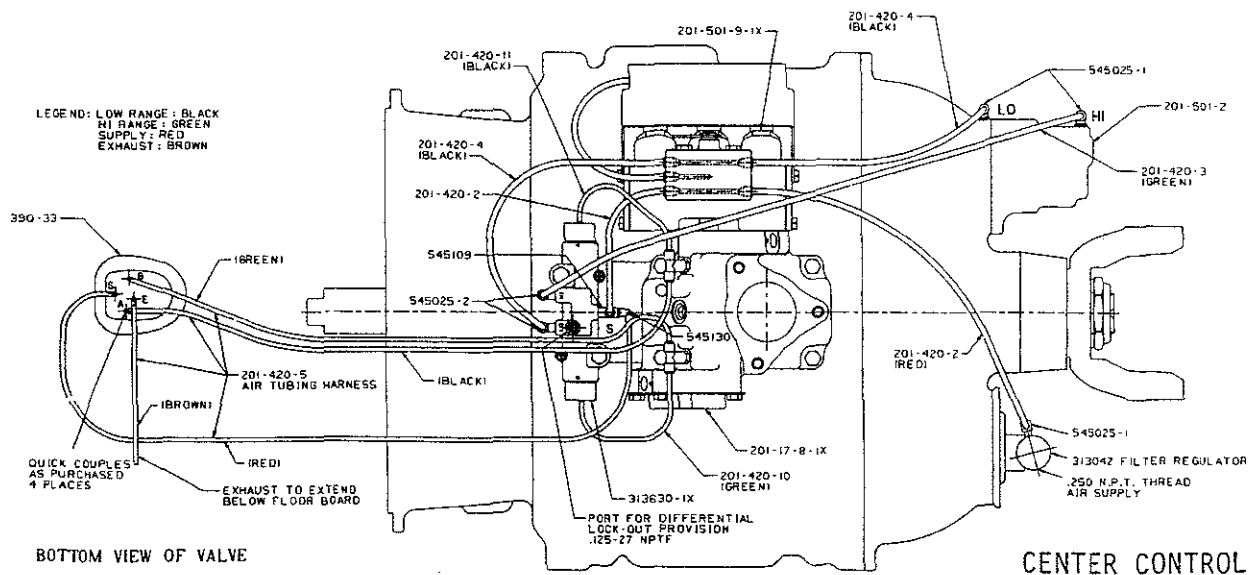
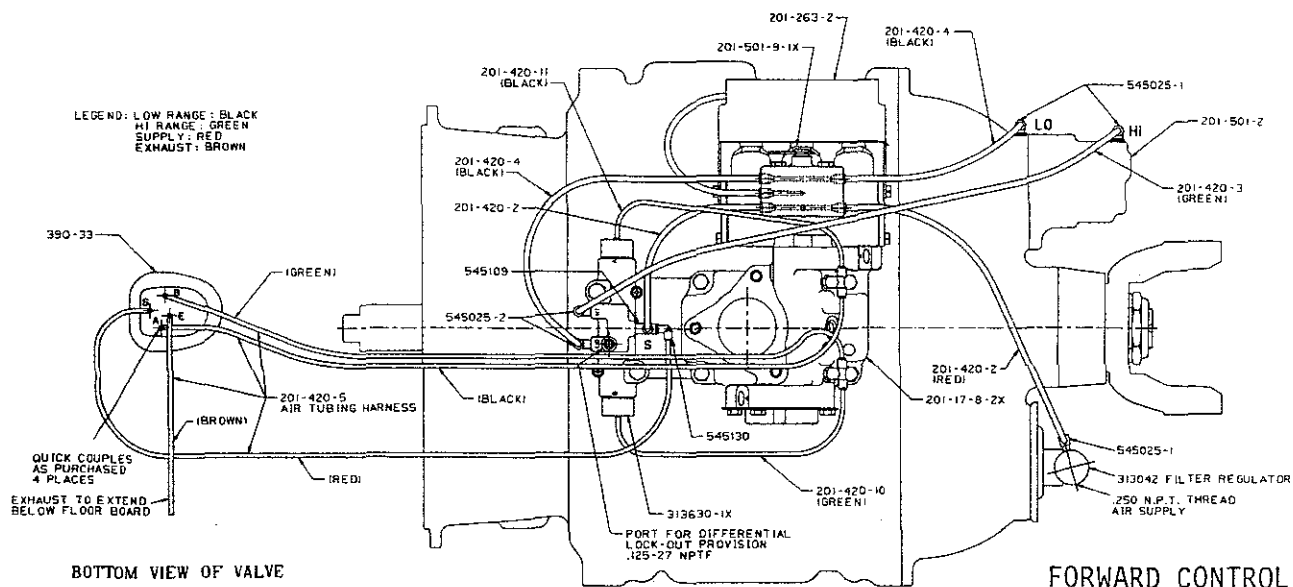
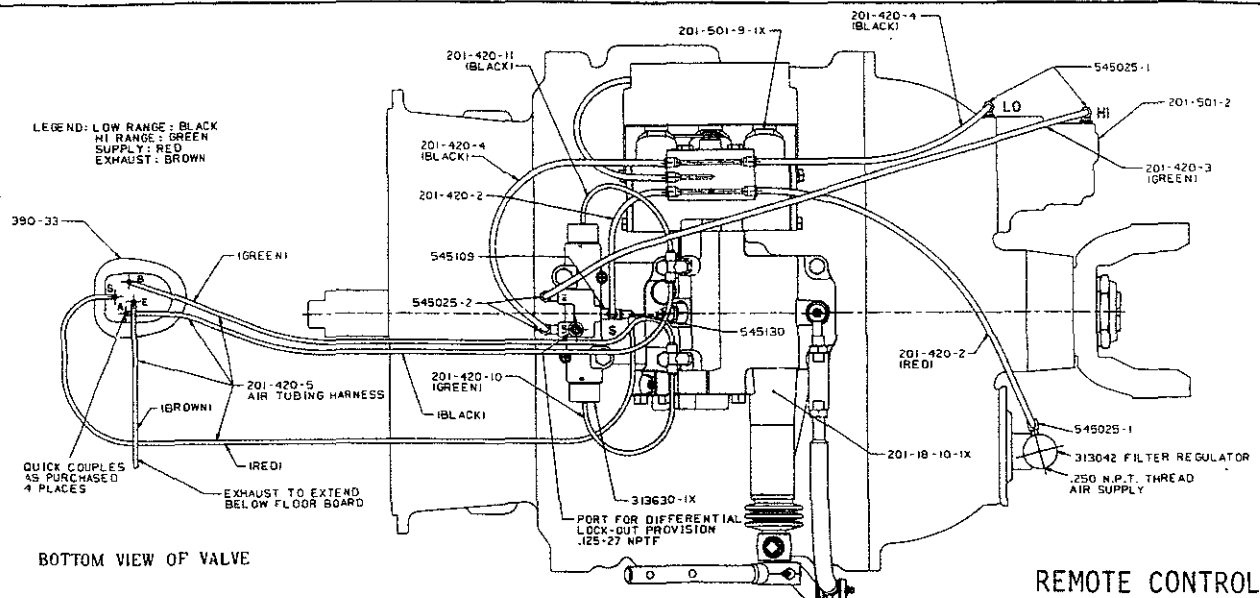
| Dana No.  | Description                                        | Qty. |
|-----------|----------------------------------------------------|------|
| 313698-2X | Oil Cooler Pump and Fittings Kit                   | 1    |
| 313292-1X | Kit - Countershaft Oil Pump                        | 1    |
| 313292    | Oil Pump                                           | 1    |
| 545005-7  | Screw - Oil Pump (.312-18 x .875)                  | 4    |
| 70-223-25 | Gasket - Countershaft Oil Pump Mounting            | 1    |
| 201-22-2  | Countershaft Rear Bearing Cap Adapter (Right Side) | 1    |
| 313117-5  | Hose Assy. - Outlet to Pump Inlet                  | 1    |
| 313697X   | Filter - Oil Screen                                | 1    |
| 545002-1  | Screw - Countershaft Rear Bearing Cap              | 4    |
| 545034    | Elbow - Oil Return Hole and Pump Inlet             | 2    |
| 545049-2  | Nipple - Pump Outlet                               | 1    |
| 545140    | Elbow - Pump Outlet                                | 1    |
| 2834      | Bulletin - Installation                            | 1    |



N.S.S. - Not Sold Separately

# MODELS ASO125,140,150,165-10S DIRECT AIR CONTROLS DIAGRAM

T210-ASO165-10S



**MODELS ASO 125,140,150,165-10S**  
**Tabulated Bills of Material**

**T210-ASO165-10S**

| Tab<br>No. | Used By | For Use<br>With<br>Clutch | Clutch Housing |                    |              | Main<br>Drive<br>Gear | Drive Gear<br>Bearing<br>Cap | Case<br>Assembly<br>Front |
|------------|---------|---------------------------|----------------|--------------------|--------------|-----------------------|------------------------------|---------------------------|
|            |         |                           | S<br>A<br>E    | Assembly<br>Number | Rel.<br>Code |                       |                              |                           |

**Model ASO125-10S**

**301541**

|                |             |               |   |          |             |             |
|----------------|-------------|---------------|---|----------|-------------|-------------|
| -1 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -2 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -3 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |

**Model ASO140-10S**

**301542**

|                |             |               |   |          |             |             |
|----------------|-------------|---------------|---|----------|-------------|-------------|
| -1 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -2 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -3 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |

**Model ASO150-10S**

**301526**

|                |             |               |   |          |             |             |
|----------------|-------------|---------------|---|----------|-------------|-------------|
| -1 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -2 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -3 Navistar    | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |

**Model ASO165-10S**

**301543**

|                |             |               |   |          |             |             |
|----------------|-------------|---------------|---|----------|-------------|-------------|
| -1 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -2 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |
| -3 General Use | Pull Type 1 | 201-518-10-2X | - | 201-35-2 | 201-19-2-1X | 201-15-5-1X |



**MODELS ASO 125,140,150,165-10S**  
**Tabulated Bills of Material**

**T210-ASO165-10S**

| Tab<br>No.       | Case<br>Assembly<br>Rear | Mainshaft Rear<br>Bearing Cap<br>Assembly | Speedometer Gears  |        | End Yoke or<br>Companion<br>Flange | Lever and<br>Tower Control<br>Assy. | Remote<br>Control<br>Assy. |
|------------------|--------------------------|-------------------------------------------|--------------------|--------|------------------------------------|-------------------------------------|----------------------------|
|                  |                          |                                           | Drive or<br>Signal | Driven |                                    |                                     |                            |
| Model ASO125-10S |                          |                                           |                    |        |                                    |                                     |                            |
| 301541           |                          |                                           |                    |        |                                    |                                     |                            |
| -1               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-2X(FWD)                    | -                          |
| -2               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-1X(CTR)                    | -                          |
| -3               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | -                                   | 201-18-10-1X               |
| Model ASO140-10S |                          |                                           |                    |        |                                    |                                     |                            |
| 301542           |                          |                                           |                    |        |                                    |                                     |                            |
| -1               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-2X(FWD)                    | -                          |
| -2               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-1X(CTR)                    | -                          |
| -3               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | -                                   | 201-18-10-1X               |
| Model ASO150-10S |                          |                                           |                    |        |                                    |                                     |                            |
| 301526           |                          |                                           |                    |        |                                    |                                     |                            |
| -1               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-2X(FWD)                    | -                          |
| -2               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-1X(CTR)                    | -                          |
| -3               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | -                                   | 201-18-10-1X               |
| Model ASO165-10S |                          |                                           |                    |        |                                    |                                     |                            |
| 301543           |                          |                                           |                    |        |                                    |                                     |                            |
| -1               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-2X(FWD)                    | -                          |
| -2               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | 201-17-8-1X(CTR)                    | -                          |
| -3               | 201-15-3-1X              | 201-19-5-2X                               | -                  | -      | -                                  | -                                   | 201-18-10-1X               |

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