

# Service Parts

Engine

Engine Models:

**John Deere 4045TF270**  
**4045HF275**

Generator Models:

50/60REOZJB (EPA)  
50/60DSEJB (EPA)  
80/100REOZJC  
80/100DSEJC

# Table of Contents

| Subject                               | Page | Subject                                    | Page |
|---------------------------------------|------|--------------------------------------------|------|
| Introduction .....                    | 1    | Group 20: Piston and Connecting Rod .....  | 26   |
| Number Significance .....             | 1    | Group 21: Flywheel .....                   | 27   |
| How to Find Part Numbers .....        | 1    | Group 22: Flywheel Housing .....           | 28   |
| Specification Number Index .....      | 2    | Group 23: Cylinder Head .....              | 29   |
| Group 1: Air Intake .....             | 4    | Group 24: Exhaust Manifold .....           | 30   |
| Group 2: Water Pump .....             | 5    | Group 25: Exhaust Elbow .....              | 31   |
| Group 3: Water Pump Pulley .....      | 6    | Group 26: Oil Filter .....                 | 32   |
| Group 4: Water Pump Inlet .....       | 6    | Group 27: Dipstick .....                   | 33   |
| Group 5: Thermostat .....             | 7    | Group 28: Oil Pan .....                    | 34   |
| Group 6: Fan Belt .....               | 8    | Group 29: Oil Cooler .....                 | 35   |
| Group 7: Fan Drive .....              | 9    | Group 30: Oil Pump .....                   | 36   |
| Group 8: Fan Pulley .....             | 10   | Group 31: Cylinder Block .....             | 37   |
| Group 9: Belt Tensioner .....         | 11   | Group 32: Front Plate .....                | 38   |
| Group 10: Vent Tube .....             | 12   | Group 33: Timing Gear Cover .....          | 39   |
| Group 11: Camshaft .....              | 13   | Group 34: Turbocharger and Oil Lines ..... | 40   |
| Group 12: Valve Train .....           | 14   | Group 35: Starter Motor .....              | 41   |
| Group 13: Rocker Arm Cover .....      | 15   | Group 36: Alternator .....                 | 42   |
| Group 14: Fuel Injection System ..... | 16   | Group 37: Alternator Brackets .....        | 44   |
| Group 15: Fuel Lines .....            | 20   | Group 38: Short Block .....                | 46   |
| Group 16: Fuel Pump .....             | 21   | Group 39: Cylinder Head Gasket Set .....   | 47   |
| Group 17: Fuel Filter .....           | 22   | Group 40: Overhaul Gasket Set .....        | 48   |
| Group 18: Crankshaft .....            | 24   | Group 41: Engine Sensors .....             | 49   |
| Group 19: Crankshaft Pulley .....     | 25   | Group 42: Wiring Harness .....             | 50   |

# Introduction

This manual lists service replacement parts for John Deere 4045TF270 and 4045HF275 engines.

At the time of print this manual applied to the engine models listed in the Specification Number Index. On occasion this manual may apply to engines not listed in the Specification Number Index.

Information in this publication represents data available at the time of print. The generator set manufacturer reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

This manual includes the following main sections:

**Table of Contents.** Lists the sections of the manual.

**Introduction (and other information sections).**

Contains introductory material about part numbers, illustrations, and hardware.

**Index.** Lists the engine models and groups.

**Group Parts Lists.** List the part numbers of parts in the groups.

## Numbering System Significance

This manual uses the following numbering systems:

**Engine Model.** The product identification number located on the engine nameplate. Engines break down into groups.

**Group Number.** A unique number representing a parts group needed to assemble an engine function. For example, Group 1 is the Air Intake group.

**Variation Number.** A group might have several variations. Each variation performs the same function with different parts lists. For example, a 12-volt alternator and 24-volt alternator both perform the same function, but, with different parts. Each difference requires a group variation or module number.

**Part Number.** The part number identifies an individual assembly, subassembly, component, or accessory kit.

## Illustrations

Illustrations (or exploded-view drawings) best representing the widest range of variations accompany most groups in this manual. Illustrations do not depict all details and may not show all parts. Do not use illustrations for assembly or disassembly.

x.in:004:004a

## How to Find Part Numbers

Use the following steps to locate a service replacement part.

1. Locate the engine nameplate to **identify the engine model number**.
2. **Turn to the Specification Number Index.** The first column lists the engine model numbers. The headings identify the groups of parts that make up the engine.
3. **Identify the group** most likely to include the service part number.
4. **Find the group variation number** at the intersection of the model row and the group column. Note the variation number. If 2 or more variation numbers are listed, note all variation numbers.
5. **Page forward to locate the group** identified in step 3 or find the appropriate page in the Table of Contents.
6. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
7. Select **the part number that corresponds to your group variation**. The first column lists the illustration item number. Find the variation(s) identified in the Specification Number Index in the appropriate column on the right side of the parts list table. Find the quantity used at the intersection of the item number row and the variation column. A blank space at the intersection means the variation/module does not use that part number.

## Hardware References

Many common hardware items do not appear in parts manuals or will appear as common hardware entries. A common hardware entry lists the size of the hardware. For example, an item that appears as "Hardware, 3/8-16" in the text means that the piece is 3/8-16 size. Obtain common hardware locally.

Some hardware items require a specific size or some other characteristic. In that case, use the part number listed in the text.

**When replacing hardware, do not substitute inferior grade hardware.** Replacement hardware grade should be equal to or better than the grade of the manufacturer's original hardware.

# Specification Number Index

| Group Title | <i>Air Intake</i> | <i>Water Pump</i> | <i>Water Pump Pulley</i> | <i>Water Pump Inlet</i> | <i>Thermostat</i> | <i>Fan Belt</i> | <i>Fan Drive</i> | <i>Fan Pulley</i> | <i>Belt Tensioner</i> | <i>Vent Tube</i> | <i>Camshaft</i> | <i>Valve Train</i> | <i>Rocker Arm Cover</i> | <i>Fuel Injection System</i> |
|-------------|-------------------|-------------------|--------------------------|-------------------------|-------------------|-----------------|------------------|-------------------|-----------------------|------------------|-----------------|--------------------|-------------------------|------------------------------|
| Group No.   | 1                 | 2                 | 3                        | 4                       | 5                 | 6               | 7                | 8                 | 9                     | 10               | 11              | 12                 | 13                      | 14                           |
|             | Variation Number  |                   |                          |                         |                   |                 |                  |                   |                       |                  |                 |                    |                         |                              |

|                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>50/60</b>   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045TF270, 12V | 1701 | 4429 | 2002 | 5722 | 2112 | 240B | 2314 | 8605 | 8711 | 2915 | 4616 | 4901 | 1101 | 164X |
| 4045TF270, 24V | 1701 | 4429 | 2002 | 5722 | 2112 | 240B | 2314 | 8605 | 8711 | 2915 | 4616 | 4901 | 1101 | 164Y |
| <b>80</b>      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 1783 | 4429 | 2002 | 5722 | 2102 | 2409 | 2301 | 8604 | 8702 | 2915 | 4616 | 4901 | 1101 | 163G |
| 4045HF275, 24V | 1783 | 4429 | 2002 | 5722 | 2102 | 2409 | 2301 | 8604 | 8702 | 2915 | 4616 | 4901 | 1101 | 161G |
| <b>100</b>     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 1783 | 4429 | 2002 | 5722 | 2102 | 2409 | 2301 | 8604 | 8702 | 2915 | 4614 | 4901 | 1101 | 163W |
| 4045HF275, 24V | 1783 | 4429 | 2002 | 5722 | 2102 | 2409 | 2301 | 8604 | 8702 | 2915 | 4614 | 4901 | 1101 | 163Y |

| Group Title | <i>Fuel Lines</i> | <i>Fuel Pump</i> | <i>Fuel Filter</i> | <i>Crankshaft</i> | <i>Crankshaft Pulley</i> | <i>Piston &amp; Connecting Rod</i> | <i>Flywheel</i> | <i>Flywheel Housing</i> | <i>Cylinder Head</i> | <i>Exhaust Manifold</i> | <i>Exhaust Elbow</i> | <i>Oil Filter</i> | <i>Dipstick</i> |
|-------------|-------------------|------------------|--------------------|-------------------|--------------------------|------------------------------------|-----------------|-------------------------|----------------------|-------------------------|----------------------|-------------------|-----------------|
| Group No.   | 15                | 16               | 17                 | 18                | 19                       | 20                                 | 21              | 22                      | 23                   | 24                      | 25                   | 26                | 27              |
|             | Variation Number  |                  |                    |                   |                          |                                    |                 |                         |                      |                         |                      |                   |                 |

|                |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>50/60</b>   |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045TF270, 12V | -    | 3702 | 3563 | 4715 | 1328 | 4823 | 1509 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |
| 4045TF270, 24V | -    | 3702 | 3563 | 4715 | 1328 | 4823 | 1509 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |
| <b>80</b>      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 6313 | 3702 | 35BV | 4715 | 1327 | 4822 | 1503 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |
| 4045HF275, 24V | 6313 | 3702 | 35BV | 4715 | 1327 | 4822 | 1503 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |
| <b>100</b>     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 6366 | 3702 | 35BV | 4715 | 1327 | 4822 | 1503 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |
| 4045HF275, 24V | 6366 | 3702 | 35BV | 4715 | 1327 | 4822 | 1503 | 1406 | 5102 | 2803 | 6401 | 8842 | 4002 |

# Specification Number Index

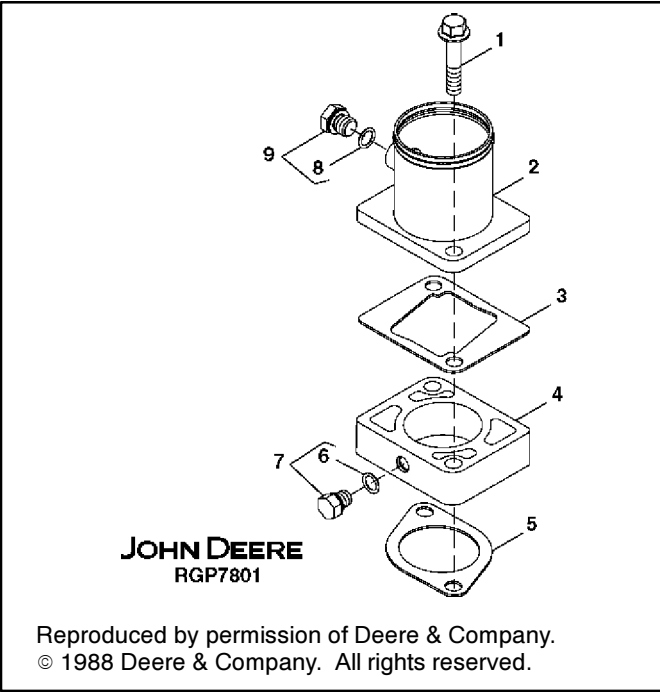
| Group Title |                  |                   |                 |                       |                    |                          |                                     |                      |                   |                            |
|-------------|------------------|-------------------|-----------------|-----------------------|--------------------|--------------------------|-------------------------------------|----------------------|-------------------|----------------------------|
|             | <i>Oil Pan</i>   | <i>Oil Cooler</i> | <i>Oil Pump</i> | <i>Cylinder Block</i> | <i>Front Plate</i> | <i>Timing Gear Cover</i> | <i>Turbocharger &amp; Oil Lines</i> | <i>Starter Motor</i> | <i>Alternator</i> | <i>Alternator Brackets</i> |
| Group No.   | 28               | 29                | 30              | 31                    | 32                 | 33                       | 34                                  | 35                   | 36                | 37                         |
|             | Variation Number |                   |                 |                       |                    |                          |                                     |                      |                   |                            |

|                |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|
| <b>50/60</b>   |      |      |      |      |      |      |      |      |      |      |
| 4045TF270, 12V | 1904 | 5901 | 5001 | 4616 | 3618 | 4429 | 65HE | 3006 | 3122 | 6211 |
| 4045TF270, 24V | 1904 | 5901 | 5001 | 4616 | 3618 | 4429 | 65HE | 3041 | 3104 | 6212 |
| <b>80</b>      |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 1904 | 5901 | 5002 | 4616 | 3618 | 4429 | 65HE | 3006 | 3138 | 6201 |
| 4045HF275, 24V | 1904 | 5901 | 5002 | 4616 | 3618 | 4429 | 65HE | 3041 | 3142 | 6201 |
| <b>100</b>     |      |      |      |      |      |      |      |      |      |      |
| 4045HF275, 12V | 1904 | 5901 | 5002 | 4614 | 3618 | 4429 | 65HE | 3006 | 3138 | 6201 |
| 4045HF275, 24V | 1904 | 5901 | 5002 | 4614 | 3618 | 4429 | 65HE | 3041 | 3142 | 6201 |

| Group Title |                    |                                 |                            |                       |                       |
|-------------|--------------------|---------------------------------|----------------------------|-----------------------|-----------------------|
|             | <i>Short Block</i> | <i>Cylinder Head Gasket Set</i> | <i>Overhaul Gasket Set</i> | <i>Engine Sensors</i> | <i>Wiring Harness</i> |
| Group No.   | 38                 | 39                              | 40                         | 41                    | 42                    |
|             | Variation Number   |                                 |                            |                       |                       |

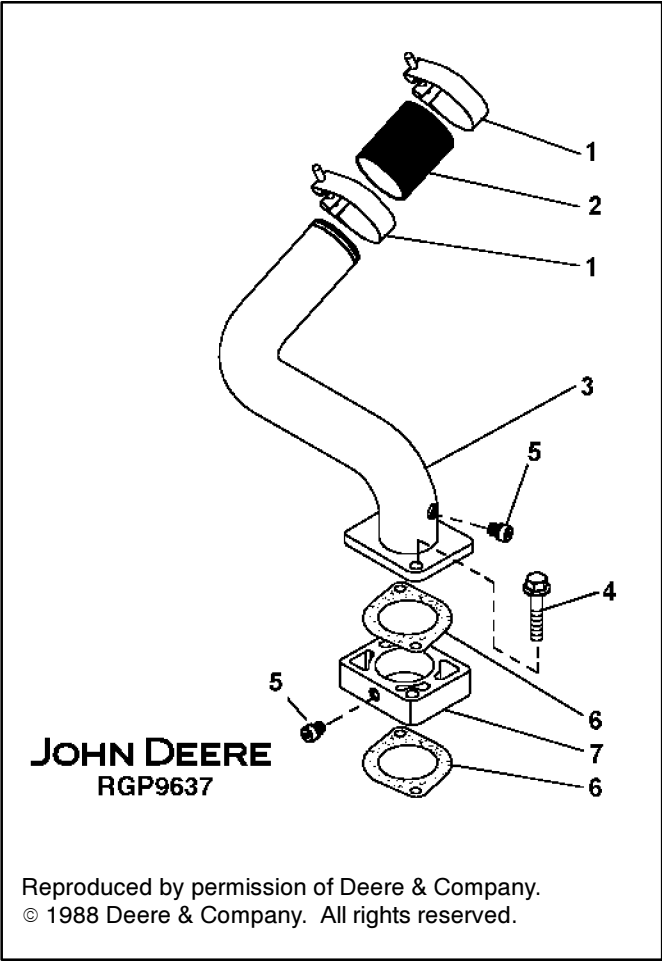
|                |      |      |      |      |      |
|----------------|------|------|------|------|------|
| <b>50/60</b>   |      |      |      |      |      |
| 4045TF270, 12V | 9901 | 9901 | 9901 | -    | -    |
| 4045TF270, 24V | 9901 | 9901 | 9901 | -    | -    |
| <b>80</b>      |      |      |      |      |      |
| 4045HF275, 12V | 9901 | 9901 | 9901 | 7635 | 8407 |
| 4045HF275, 24V | 9901 | 9901 | 9901 | 7635 | 8407 |
| <b>100</b>     |      |      |      |      |      |
| 4045HF275, 12V | 9901 | 9901 | 9901 | 7635 | 8407 |
| 4045HF275, 24V | 9901 | 9901 | 9901 | 7635 | 8407 |

# Group 1: Air Intake



| Item | Part Number | Description           | Qty.           |
|------|-------------|-----------------------|----------------|
|      |             |                       | Variation 1783 |
| 1    | #           | Screw                 | 2              |
| 2    | GM24517     | Manifold, intake      | 1              |
| 3    | GM17458     | Gasket                | 1              |
| 4    | GM17483     | Spacer                | 1              |
| 5    | 223532      | Gasket                | 1              |
| 6    | #           | O-ring, 8.1 x 1.6 mm  | 1              |
| 7    | GM24516     | Fitting               | 1              |
| 8    | GM21508     | O-ring, 11.3 x 2.2 mm | 1              |
| 9    | 360013      | Plug                  | 1              |

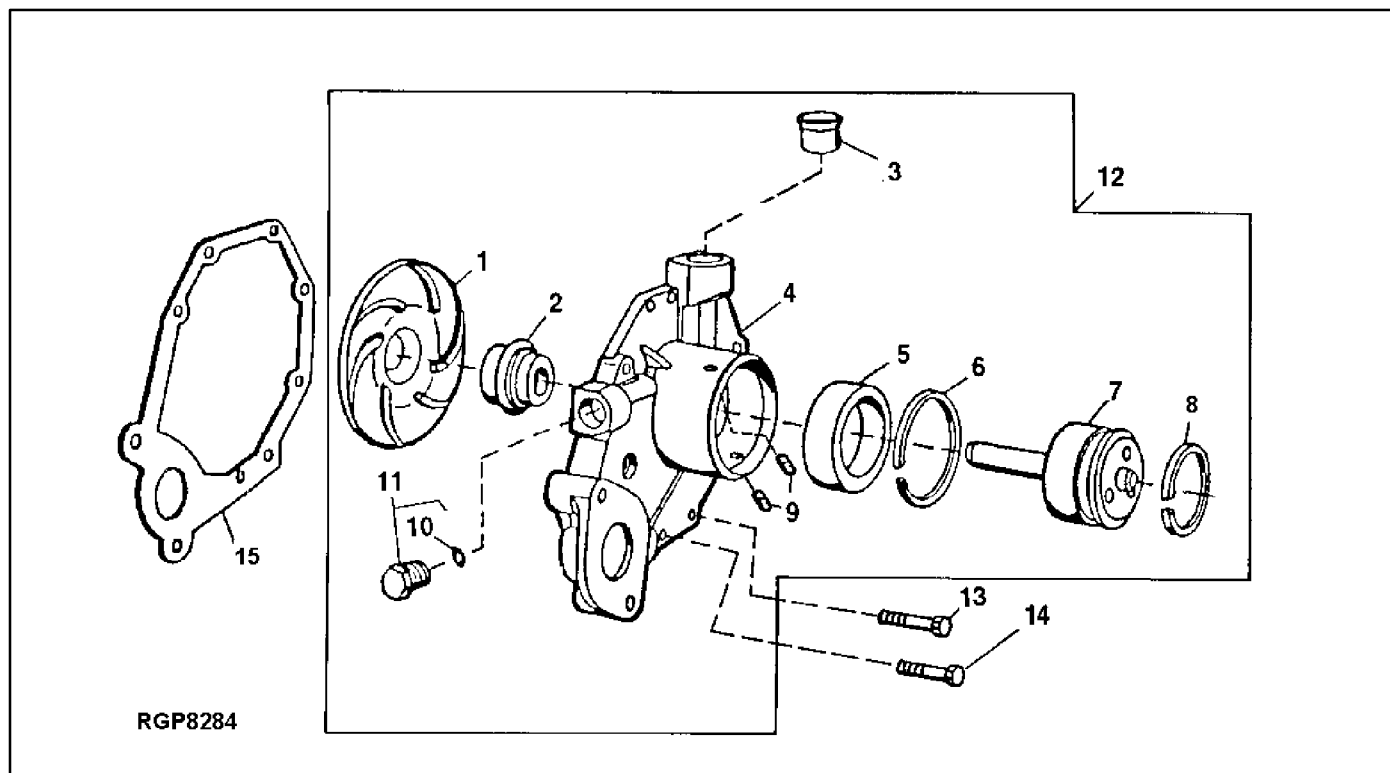
# Common hardware; procure locally



| Item | Part Number | Description               | Qty.           |
|------|-------------|---------------------------|----------------|
|      |             |                           | Variation 1701 |
| 1    | GM18669     | Clamp                     | 2              |
| 2    | GM32781     | Hose                      | 1              |
| 3    | GM32826     | Air intake                | 1              |
| 4    | #           | Screw, M10 x 50           | 2              |
| 5    | GM24516     | Fitting (includes o-ring) | 2              |
| 6    | 223532      | Gasket                    | 2              |
| 7    | GM17483     | Spacer                    | 1              |

# Common hardware; procure locally

## Group 2: Water Pump

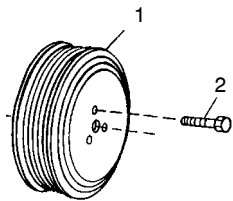


| Item | Part Number | Description                                                          | Quantity<br>Variation<br>4429 |
|------|-------------|----------------------------------------------------------------------|-------------------------------|
| 1    | X           | Impeller                                                             | 1                             |
| 2    | X           | Seal                                                                 | 1                             |
| 3    | 360116      | Gasket                                                               | 1                             |
| 4    | X           | Housing                                                              | 1                             |
| 5    | X           | Ball bearing                                                         | 1                             |
| 6    | X           | Ring                                                                 | 1                             |
| 7    | X           | Shaft                                                                | 1                             |
| 8    | 360003      | Ring, snap                                                           | 1                             |
| 9    | GM17443     | Filter                                                               | 2                             |
| 10   | 360176      | O-ring                                                               | 1                             |
| 11   | 360014      | Plug                                                                 | 2                             |
| 12   | GM29382     | Pump, water (4045HF/TF275 engine)                                    | 1                             |
| 12   | GM29383     | Pump, water (4045TF270 engine)                                       | 1                             |
| 13   | #           | Screw, M6 x 25                                                       | 5                             |
| 14   | #           | Screw, M6 x 30                                                       | 3                             |
| 15   | 360124      | Gasket, water pump                                                   | 1                             |
| -    | GM17551     | Water pump seal kit (includes items 1-3, 5-11) (4045HF/TF275 engine) | 1                             |
| -    | GM32829     | Water pump kit (includes items 1-3, 5-11) (4045TF270 engine)         | 1                             |

# Common hardware; procure locally

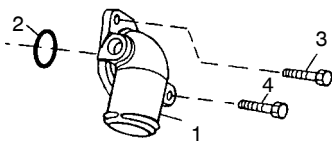
X Not sold separately

## Group 3: Water Pump Pulley



| Item | Part Number | Description        | Quantity       |
|------|-------------|--------------------|----------------|
|      |             |                    | Variation 2002 |
| 1    | 360085      | Pulley, water pump | 1              |
| 2    | #           | Screw, M6 x 12     | 3              |

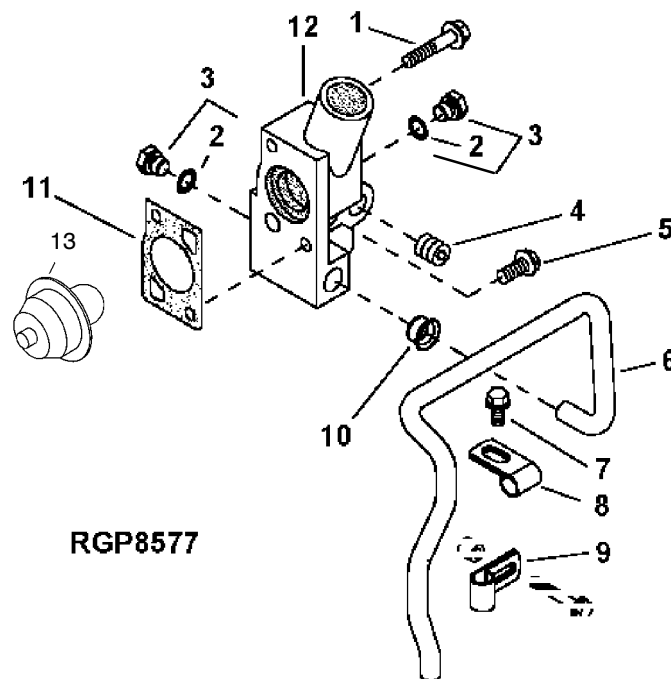
## Group 4: Water Pump Inlet



| Item | Part Number | Description    | Quantity       |
|------|-------------|----------------|----------------|
|      |             |                | Variation 5722 |
| 1    | GM32792     | Housing        | 1              |
|      | 360014      | Plug           | 1              |
| 2    | 224172      | O-ring         | 1              |
| 3    | #           | Screw, M8 x 25 | 1              |
| 4    | #           | Screw, M8 x 65 | 1              |

# Common hardware; procure locally

## Group 5: Thermostat

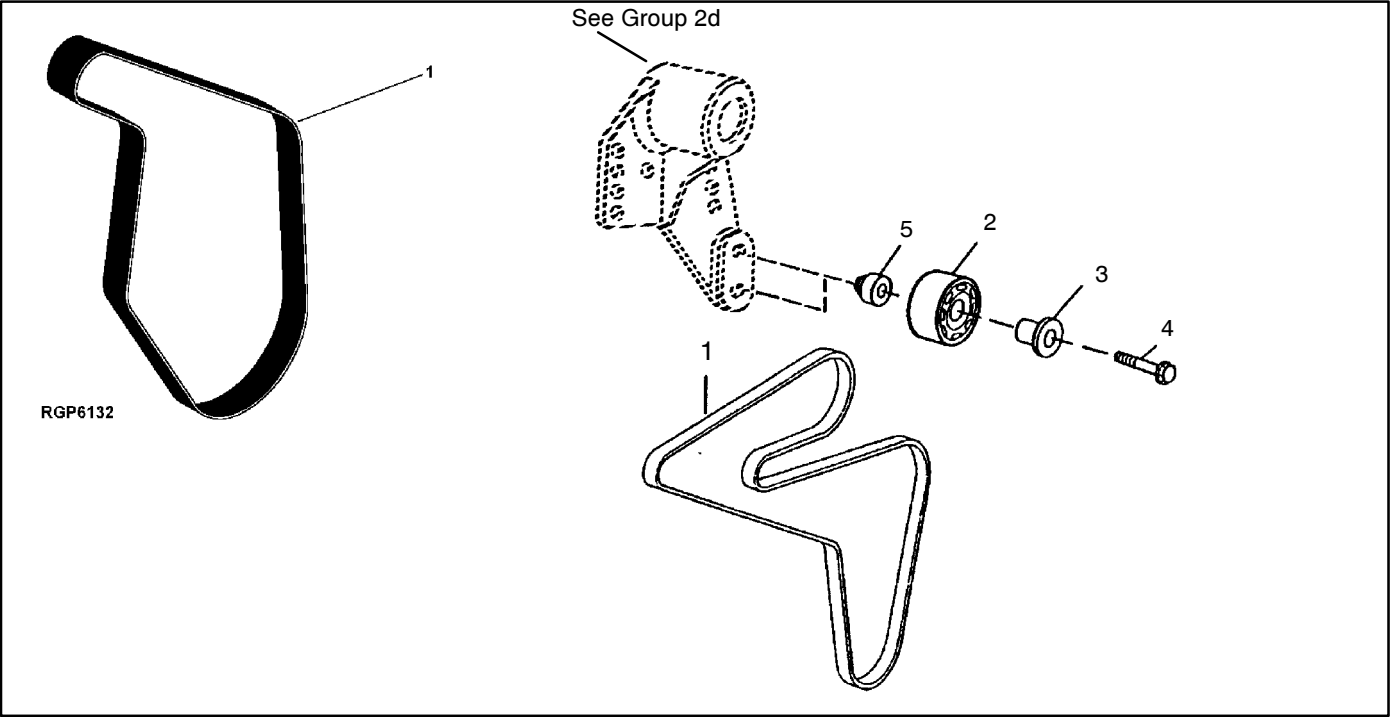


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description               | Quantity  |      |
|------|-------------|---------------------------|-----------|------|
|      |             |                           | Variation |      |
|      |             |                           | 2102      | 2112 |
| 1    | #           | Screw, M10 x 70           | 1         | 1    |
| 2    | GM21508     | O-ring                    | 2         | 2    |
| 3    | 360013      | Plug                      | 2         | 2    |
| 4    | GM15403     | Plug, pipe                | 3         | 3    |
| 5    | #           | Screw, M10 x 30           | 1         | 1    |
| 6    | 360142      | Tube                      | 1         |      |
| 6    | GM23839     | Tube                      |           | 1    |
| 7    | #           | Screw, M12 x 25           | 1         | 1    |
| 8    | 360120      | Clamp                     | 1         | 1    |
| 9    | 360121      | Clamp                     | 1         | 1    |
| 10   | 360116      | Gasket, water bypass tube | 1         | 1    |
| 11   | 360484      | Gasket                    | 1         | 1    |
| 12   | GM32786     | Cover, thermostat         | 1         | 1    |
| 13   | GM32812     | Thermostat                | 1         | 1    |

# Common hardware; procure locally

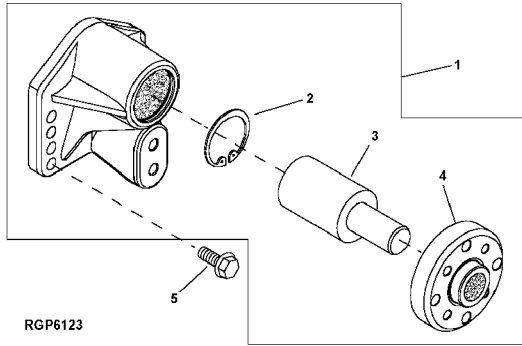
# Group 6: Fan Belt



| Item | Part Number | Description             | Quantity  |      |
|------|-------------|-------------------------|-----------|------|
|      |             |                         | Variation |      |
|      |             |                         | 2409      | 240B |
| 1    | GM23828     | V-belt, 1575 mm (8 rib) | 1         |      |
| 1    | GM28308     | V-belt, 1515 mm (8 rib) |           | 1    |
| 2    | GM17529     | Pulley                  | 1         |      |
| 3    | GM17488     | Sleeve                  | 1         |      |
| 4    | #           | Screw, M10 x 65         | 1         |      |
| 5    | GM23835     | Spacer                  | 1         |      |

# Common hardware; procure locally

## Group 7: Fan Drive



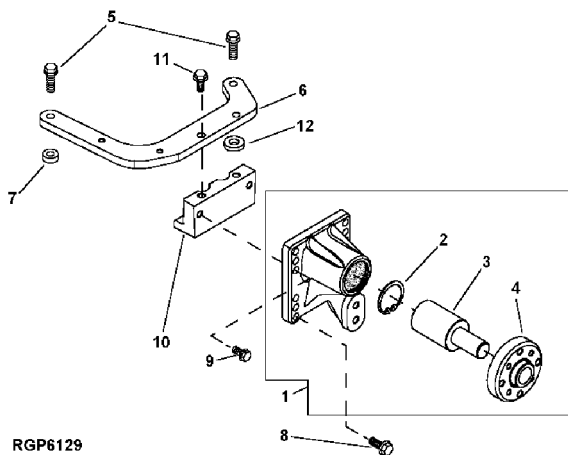
RGP6123

Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                 | Quantity       |
|------|-------------|-----------------------------|----------------|
|      |             |                             | Variation 2301 |
| 1    | 360030      | Housing, bearing w/ bearing | 1              |
| 2    | 360005      | Ring, snap                  | 1              |
| 3    | X           | Bearing (order item 1)      | 1              |
| 4    | X           | Hub (order item 1)          | 1              |
| 5    | #           | Screw, M10 x 35             | 4              |

# Common hardware; procure locally

X Not sold separately



RGP6129

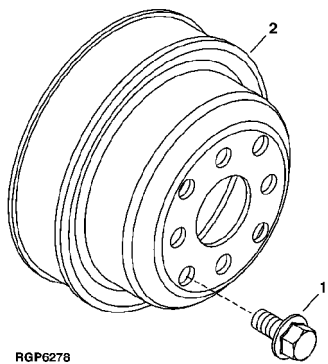
Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description     | Quantity       |
|------|-------------|-----------------|----------------|
|      |             |                 | Variation 2314 |
| 1    | GM23844     | Support         | 1              |
| 2    | 223730      | Ring, snap      | 1              |
| 3    | X           | Shaft           | 1              |
| 4    | X           | Hub             | 1              |
| 5    | #           | Screw, M12 x 35 | 2              |
| 6    | GM23831     | Bracket         | 1              |
| 7    | GM23826     | Washer          | 1              |
| 8    | #           | Screw, M10 x 35 | 4              |
| 9    | #           | Screw, M10 x 20 | 2              |
| 10   | GM23830     | Spacer          | 1              |
| 11   | #           | Screw, M10 x 30 | 2              |
| 12   | GM23855     | Washer          | 1              |

# Common hardware; procure locally

X Not sold separately

# Group 8: Fan Pulley

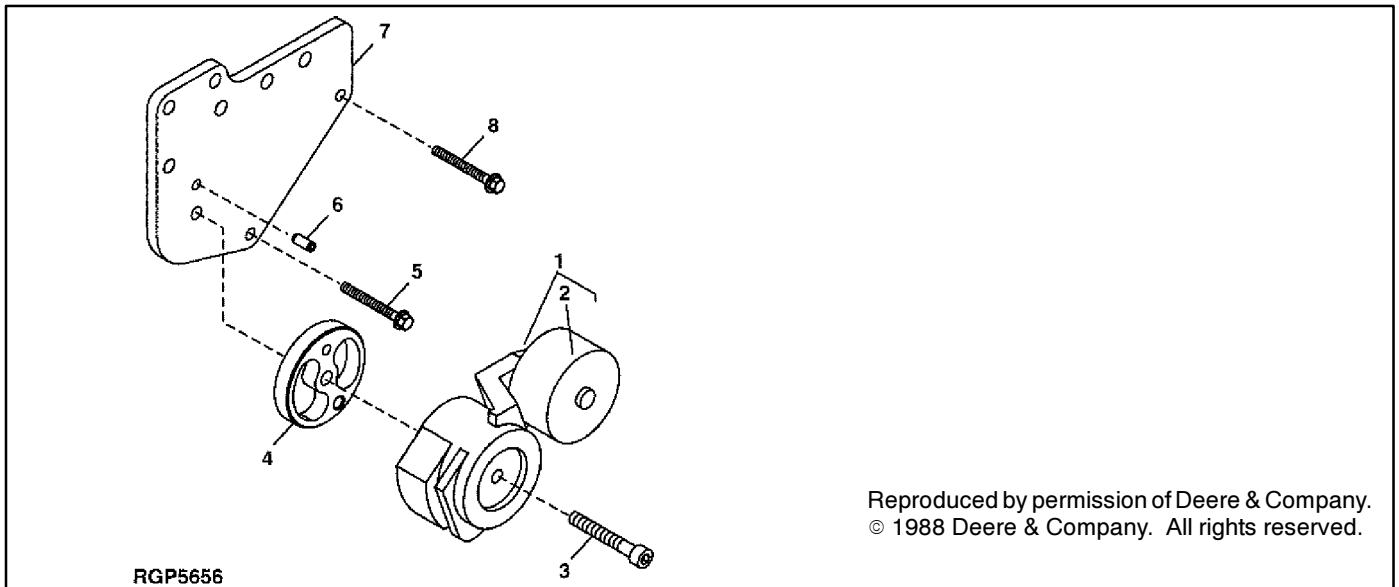


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description | Quantity  |      |
|------|-------------|-------------|-----------|------|
|      |             |             | Variation |      |
|      |             |             | 8604      | 8605 |
| 1    | GM32765     | Screw       | 4         | 4    |
| 2    | 360578      | Pulley, fan | 1         |      |
| 2    | 360143      | Pulley, fan |           | 1    |

# Common hardware; procure locally

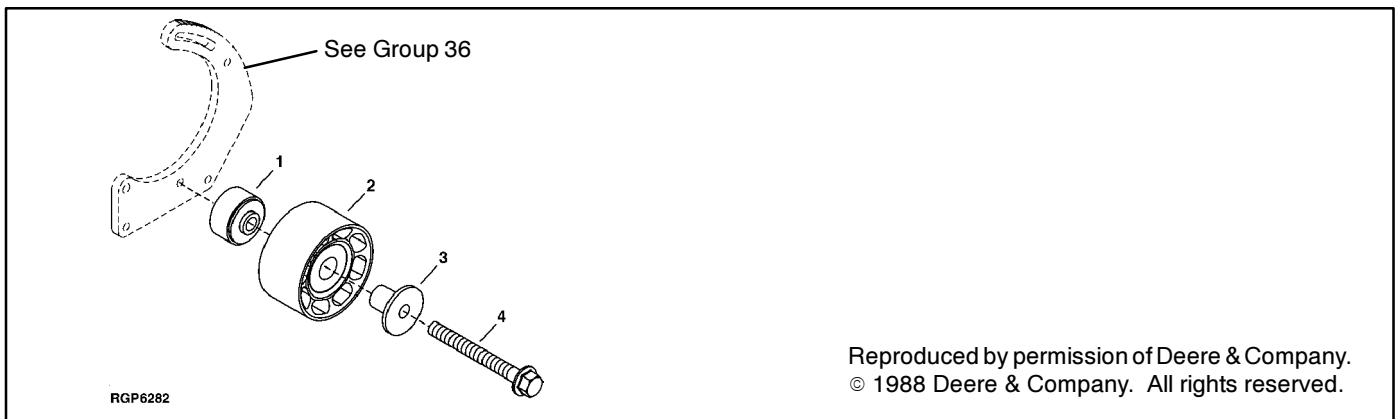
## Group 9: Belt Tensioner



| Item | Part Number | Description            | Quantity       |
|------|-------------|------------------------|----------------|
|      |             |                        | Variation 8702 |
| 1    | 360075      | Tensioner              | 1              |
| 2    | X           | Bolt                   | 1              |
| 3    | #           | Screw                  | 1              |
| 4    | GM24520     | Spacer                 | 1              |
| 5    | #           | Screw                  | 1              |
| 6    | #           | Pin, spring, 8 x 30 mm | 1              |
| 7    | GM24521     | Support                | 1              |
| 8    | #           | Screw                  | 1              |

# Common hardware; procure locally

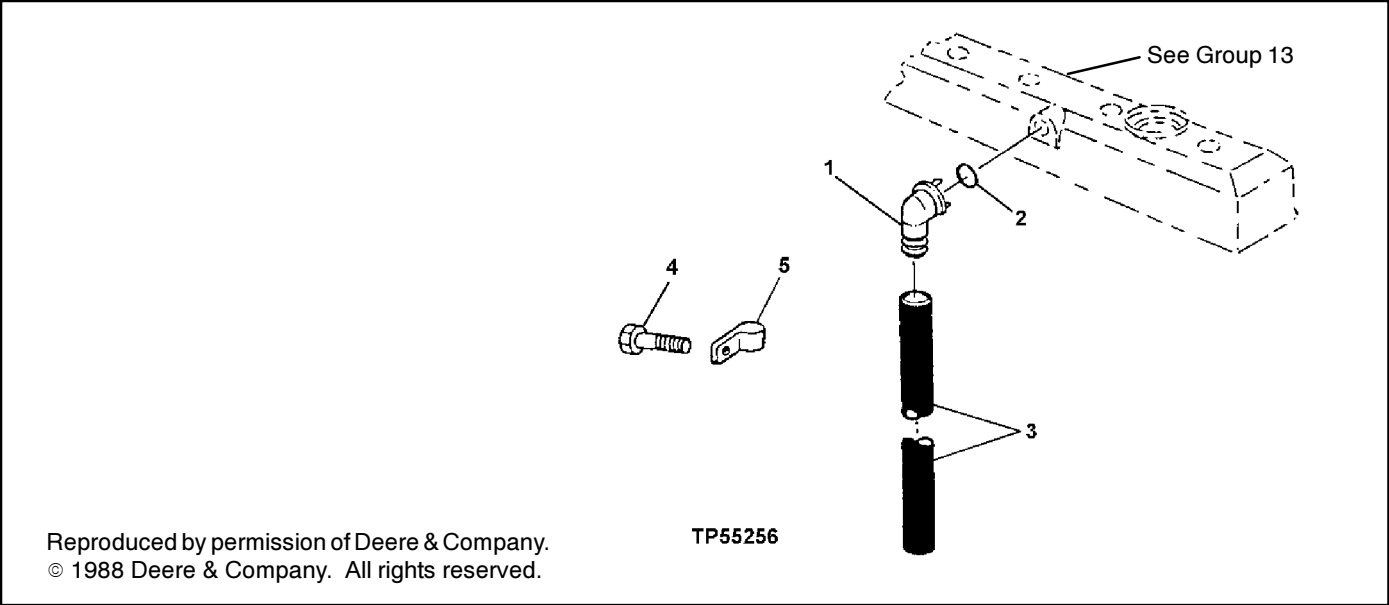
X Not sold separately



| Item | Part Number | Description     | Quantity       |
|------|-------------|-----------------|----------------|
|      |             |                 | Variation 8711 |
| 1    | GM23835     | Spacer          | 1              |
| 2    | GM17529     | Pulley          | 1              |
| 3    | GM17488     | Sleeve          | 1              |
| 4    | #           | Screw, M10 x 60 | 1              |

# Common hardware; procure locally

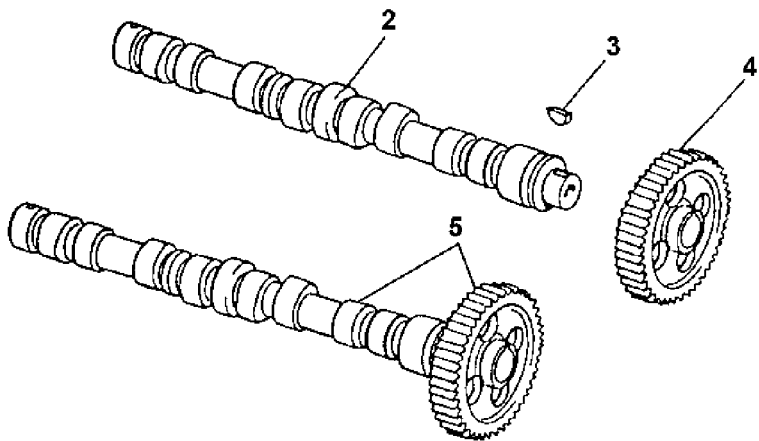
# Group 10: Vent Tube



| Item | Part Number | Description    | Quantity       |
|------|-------------|----------------|----------------|
|      |             |                | Variation 2915 |
| 1    | 360098      | Fitting, elbow | 1              |
| 2    | 223851      | O-ring         | 1              |
| 3    | GM17459     | Hose           | 1              |
| 4    | #           | Screw, M8 x 20 | 1              |
| 5    | 360530      | Clamp          | 1              |

# Common hardware; procure locally

# Group 11: Camshaft

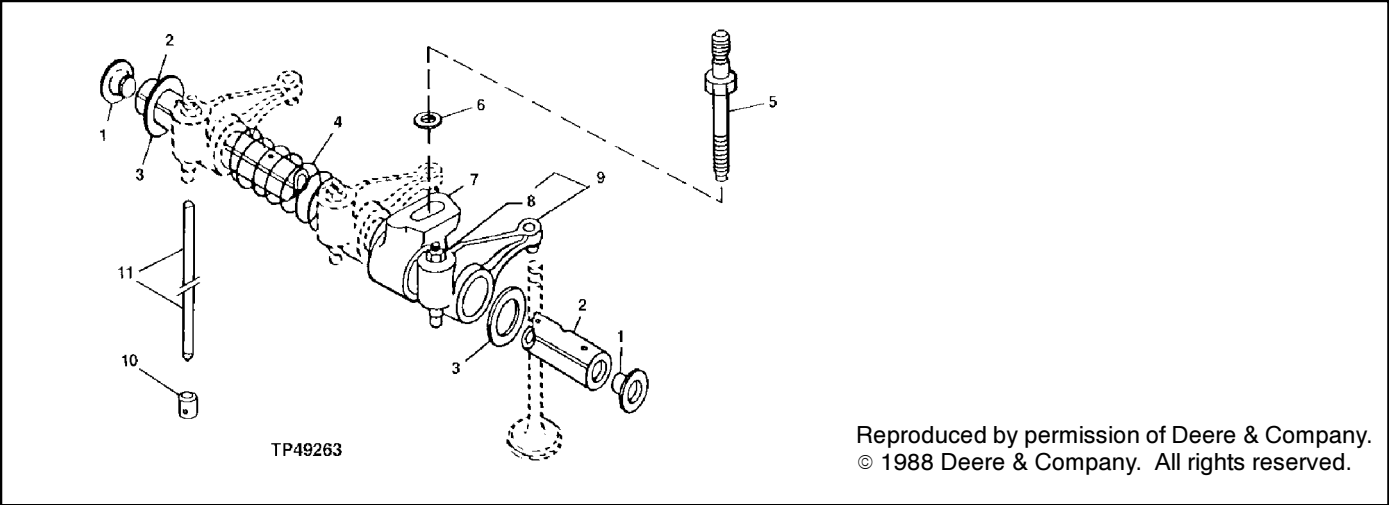


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description             | Quantity  |      |
|------|-------------|-------------------------|-----------|------|
|      |             |                         | Variation |      |
|      |             |                         | 4614      | 4616 |
| 2    | X           | Camshaft (order item 5) | 1         | 1    |
| 3    | 360158      | Key, shaft              | 1         | 1    |
| 4    | X           | Gear (order item 5)     | 1         | 1    |
| 5    | GM32813     | Camshaft                | 1         | 1    |

X Not sold separately

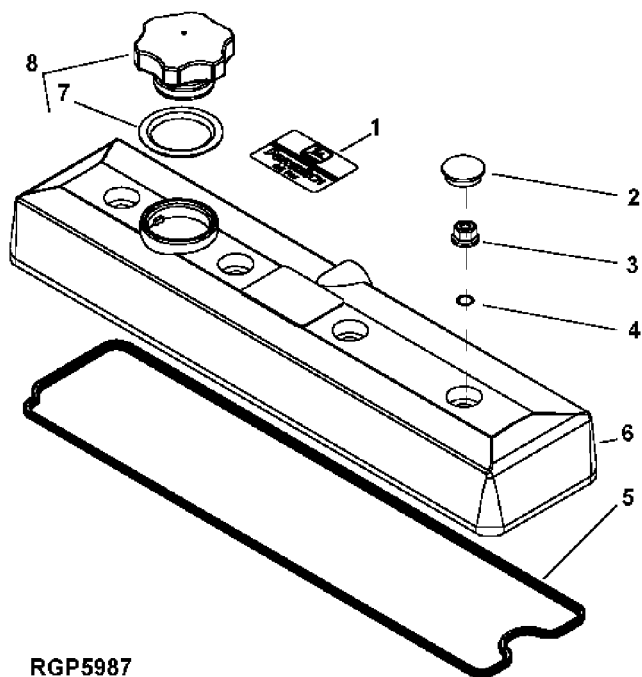
# Group 12: Valve Train



| Item | Part Number | Description            | Quantity       |
|------|-------------|------------------------|----------------|
|      |             |                        | Variation 4901 |
| 1    | 223480      | Plug                   | 2              |
| 2    | 360509      | Shaft, rocker arm      | 1              |
| 3    | 223634      | Washer                 | 2              |
| 4    | 223632      | Spring                 | 5              |
| 5    | 360118      | Stud                   | 6              |
| 6    | 223756      | Washer, 11 x 20 x 2 mm | 6              |
| 7    | 360112      | Support                | 6              |
| 8    | #           | Nut, M10               | 1              |
| 9    | 360072      | Arm, rocker            | 12             |
| 10   | 360135      | Tappet                 | 12             |
| 11   | 352026      | Rod, push              | 12             |

# Common hardware; procure locally

# Group 13: Rocker Arm Cover



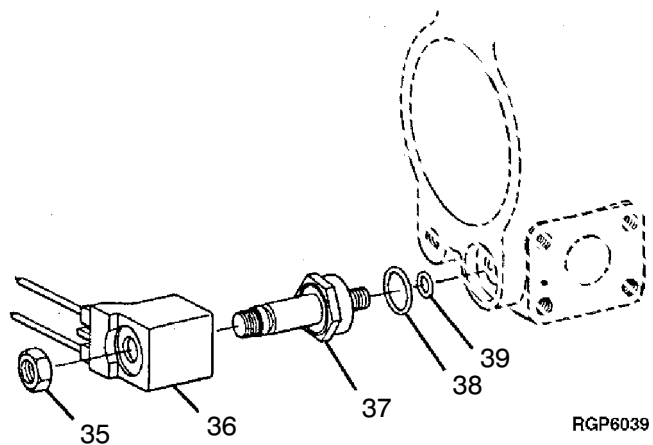
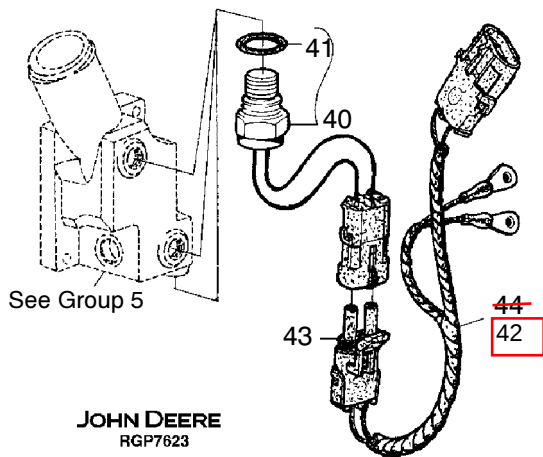
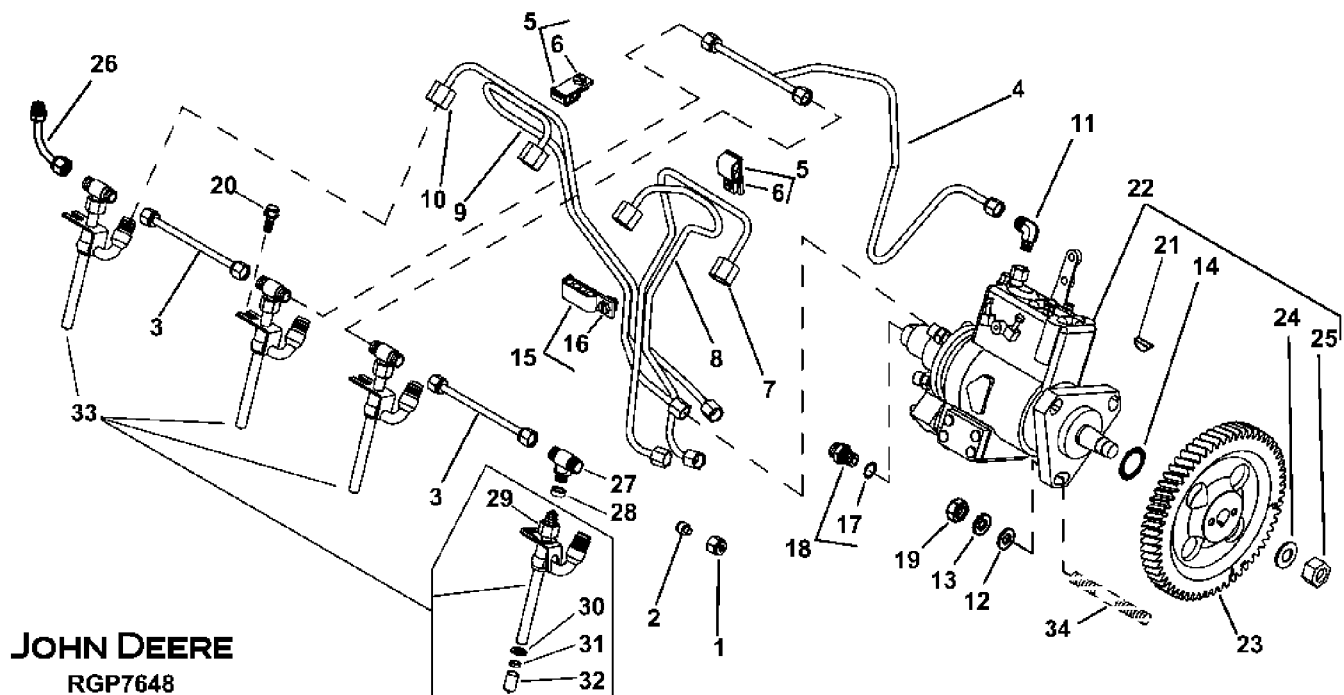
RGP5987

Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                      | Quantity       |
|------|-------------|----------------------------------|----------------|
|      |             |                                  | Variation 1101 |
| 1    | X           | Medallion                        | 1              |
| 2    | 360004      | Plug                             | 6              |
| 3    | 360138      | Nut                              | 6              |
| 4    | 360139      | O-ring                           | 6              |
| 5    | 360585      | Gasket, rocker arm cover         | 1              |
| 6    | 360507      | Cover, rocker arm                | 1              |
| 7    | GM17493     | Packing                          | 1              |
| 8    | 360018      | Cap, oil fill (includes packing) | 1              |

X Not sold separately

# Group 14: Fuel Injection Pump



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

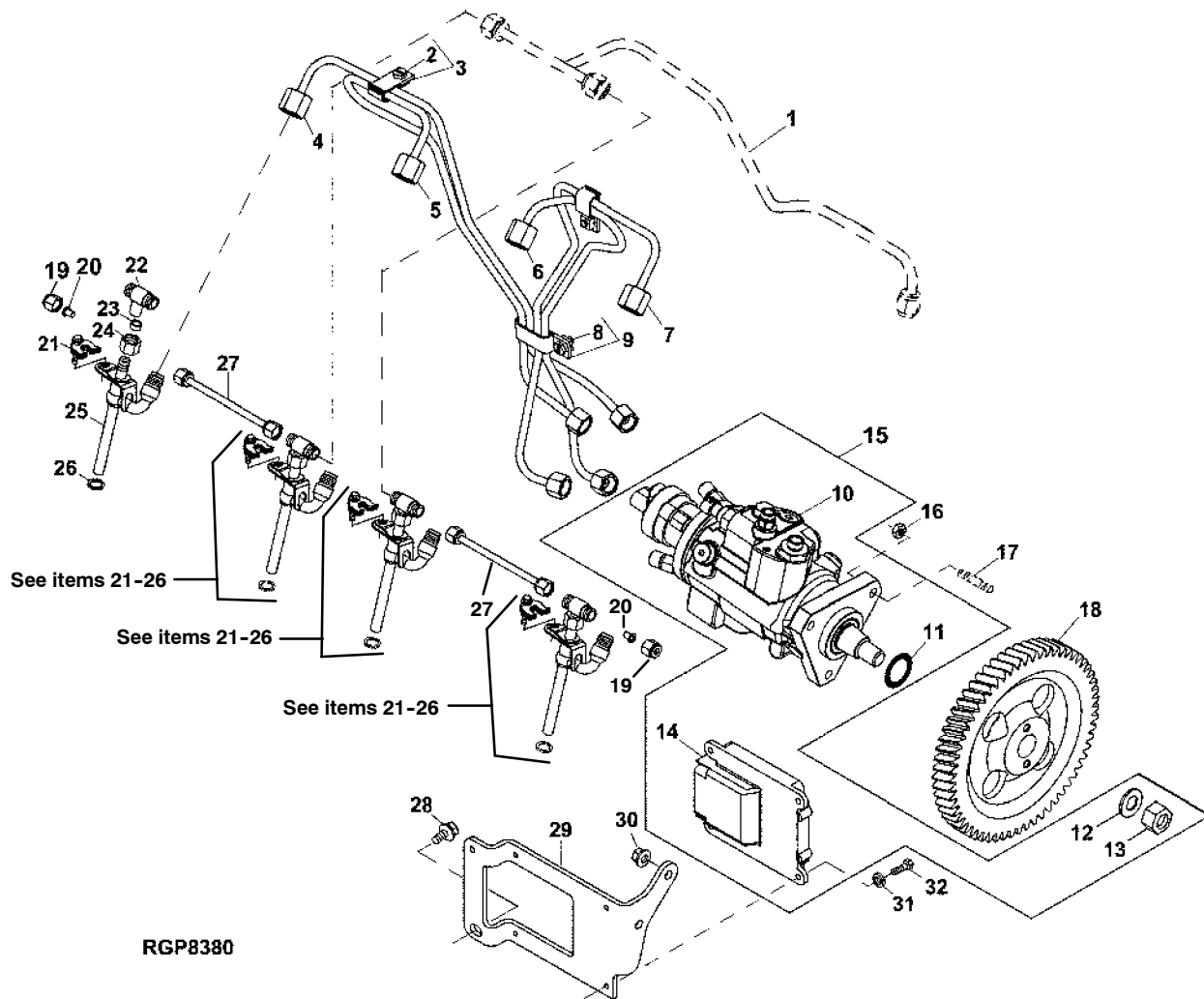
## Group 14: Fuel Injection Pump

| Item | Part Number | Description              | Quantity  |      |
|------|-------------|--------------------------|-----------|------|
|      |             |                          | Variation |      |
|      |             |                          | 164X      | 164Y |
| 1    | 360141      | Nut                      | 2         | 2    |
| 2    | 223710      | Plug                     | 2         | 2    |
| 3    | 223504      | Tube                     | 2         | 2    |
| 4    | GM17549     | Fuel line                | 1         | 1    |
| 5    | 223572      | Clamp                    | 2         | 2    |
| 6    | #           | Screw, M6 x 12           | 2         | 2    |
| 7    | 360536      | Fuel line, no. 1         | 1         | 1    |
| 8    | 360537      | Fuel line, no. 2         | 1         | 1    |
| 9    | 360538      | Fuel line, no. 3         | 1         | 1    |
| 10   | 360539      | Fuel line, no. 4         | 1         | 1    |
| 11   | 223837      | Elbow fitting            | 1         | 1    |
| 12   | #           | Washer, lock, 8 mm       | 3         | 3    |
| 13   | 224338      | Washer                   | 3         | 3    |
| 14   | GM17487     | O-ring                   | 1         | 1    |
| 15   | 223573      | Clamp                    | 1         | 1    |
| 16   | #           | Screw, M6 x 12           | 1         | 1    |
| 17   | 360178      | O-ring                   | 1         | 1    |
| 18   | 360037      | Fitting                  | 1         | 1    |
| 19   | #           | Nut, M8                  | 3         | 3    |
| 20   | 360091      | Screw                    | 4         | 4    |
| 21   | -           | Not used                 | NA        | NA   |
| 22   | GM32841     | Pump, fuel injection     | 1         |      |
| 22   | GM32842     | Pump, fuel injection     |           | 1    |
| 23   | 360153      | Gear, 60 teeth           | 1         | 1    |
| 24   | GM17456     | Washer                   | 1         | 1    |
| 25   | 224161      | Nut                      | 1         | 1    |
| 26   | -           | See group 17             | NA        | NA   |
| 27   | GM21513     | Tee fitting              | 4         | 4    |
| 28   | 223518      | Washer                   | 4         | 4    |
| 29   | 223517      | Tube nut                 | 1         | 1    |
| 30   | 224285      | Packing                  | 1         | 1    |
| 31   | GM17473     | Washer (std nozzle bore) | 1         | 1    |
| 32   | 224257      | Plug                     | 1         | 1    |
| 33   | 360017      | Injection nozzle         | 4         | 4    |
| 34   | -           | See group 32             | 3         | 3    |
| 35   | GM32791     | Nut                      | 1         | 1    |
| 36   | GM32784     | Solenoid valve coil      | 1         | 1    |
| 37   | GM32783     | Valve                    | 1         | 1    |
| 38   | GM32785     | Seal                     | 1         | 1    |
| 39   | GM17487     | O-ring                   | 1         | 1    |
| 40   | GM21509     | Switch, temperature      | 1         | 1    |
| 41   | GM21508     | O-ring                   | 1         | 1    |
| 42   | GM21510     | Wiring harness           | 1         | 1    |
| 43   | X           | Connector                | 1         | 1    |
| 44   | -           | See group 5              | 1         | 1    |

# Common hardware; procure locally

X Not sold separately

## Group 14: Fuel Injection Pump, continued



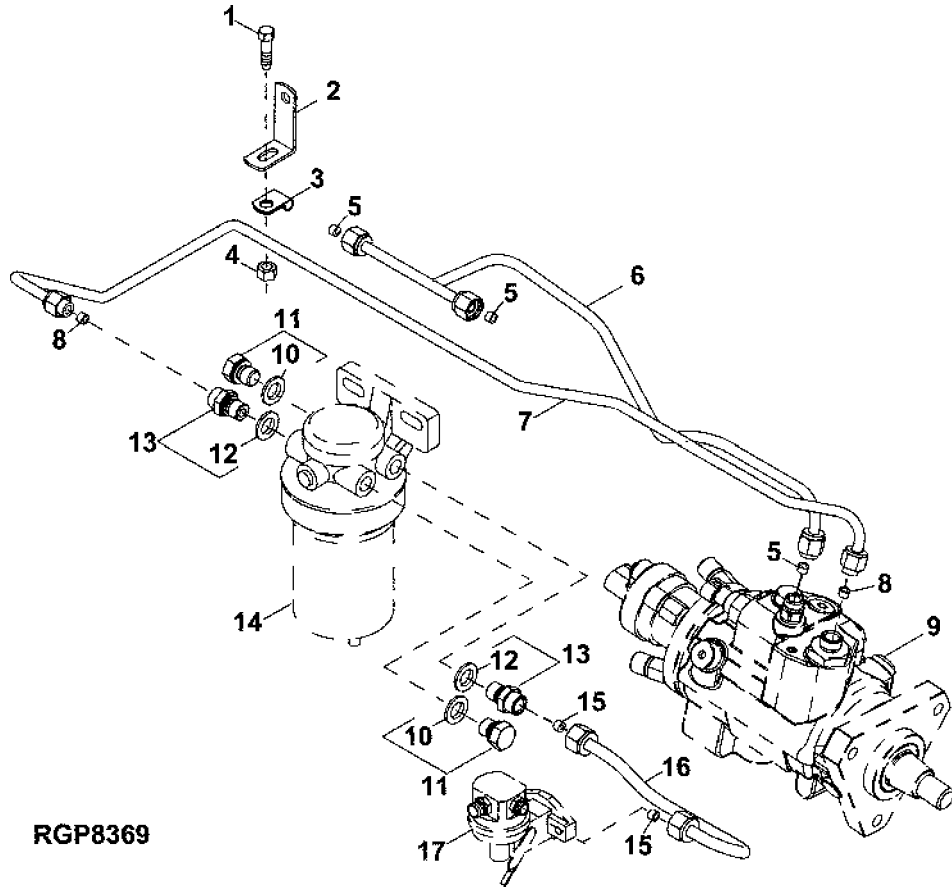
Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

## Group 14: Fuel Injection Pump, continued

| Item | Part Number | Description                   | Quantity  |      |      |      |
|------|-------------|-------------------------------|-----------|------|------|------|
|      |             |                               | Variation |      |      |      |
|      |             |                               | 163G      | 161G | 163W | 163Y |
| 1    | -           | See Group 15                  | 1         | 1    | 1    | 1    |
| 2    | #           | Screw                         | 2         | 2    | 2    | 2    |
| 3    | 223572      | Clamp                         | 2         | 2    | 2    | 2    |
| 4    | GM32818     | Fuel line, no. 4              | 1         | 1    | 1    | 1    |
| 5    | GM32817     | Fuel line, no. 3              | 1         | 1    | 1    | 1    |
| 6    | GM32816     | Fuel line, no. 2              | 1         | 1    | 1    | 1    |
| 7    | GM32815     | Fuel line, no. 1              | 1         | 1    | 1    | 1    |
| 8    | #           | Screw                         | 1         | 1    | 1    | 1    |
| 9    | 223573      | Clamp                         | 1         | 1    | 1    | 1    |
| 10   | GM32839     | Pump, fuel injection          | 1         | 1    | 1    | 1    |
| 11   | GM17487     | O-ring                        | 1         | 1    | 1    | 1    |
| 12   | GM17456     | Washer                        | 1         | 1    | 1    | 1    |
| 13   | 224161      | Nut                           | 1         | 1    | 1    | 1    |
| 14   | GM32840     | Controller, engine (ECU) 24 V |           | 1    |      |      |
| 14   | GM32844     | Controller, engine (ECU) 12 V | 1         |      | 1    |      |
| 14   | GM32845     | Controller, engine (ECU) 24 V |           |      |      | 1    |
| 15   | GM32835     | Kit, pump/controller          |           | 1    |      |      |
| 15   | GM32834     | Kit, pump/controller          | 1         |      | 1    |      |
| 16   | #           | Nut, flange                   | 3         | 3    | 3    | 3    |
| 17   | -           | See Group 32                  | 1         | 1    | 1    | 1    |
| 18   | GM32798     | Gear                          | 1         | 1    | 1    | 1    |
| 19   | 360141      | Nut                           | 2         | 2    | 2    | 2    |
| 20   | 223710      | Plug                          | 2         | 2    | 2    | 2    |
| 21   | GM32825     | Clamp                         | 4         | 4    | 4    | 4    |
| 22   | GM21513     | Tee fitting                   | 4         | 4    | 4    | 4    |
| 23   | 223518      | Washer                        | 4         | 4    | 4    | 4    |
| 24   | 223517      | Tube nut                      | 4         | 4    | 4    | 4    |
| 25   | GM32819     | Nozzle, injection             | 4         | 4    |      |      |
| 25   | 360017      | Nozzle, injection             |           |      | 4    | 4    |
| 26   | 224285      | Packing                       | 4         | 4    | 4    | 4    |
| 27   | 223504      | Tube                          | 2         | 2    | 2    | 2    |
| 27   | 223476      | Sealing washer                |           |      | 2    | 2    |
| 28   | #           | Screw, M10 x 20               | 1         | 1    | 1    | 1    |
| 29   | GM32793     | Bracket                       | 1         | 1    | 1    | 1    |
| 30   | #           | Nut, flange                   | 2         | 2    | 2    | 2    |
| 31   | #           | Washer                        | 4         | 4    | 4    | 4    |
| 32   | #           | Screw, cap                    | 4         | 4    | 4    | 4    |

# Common hardware; procure locally

## Group 15: Fuel Lines

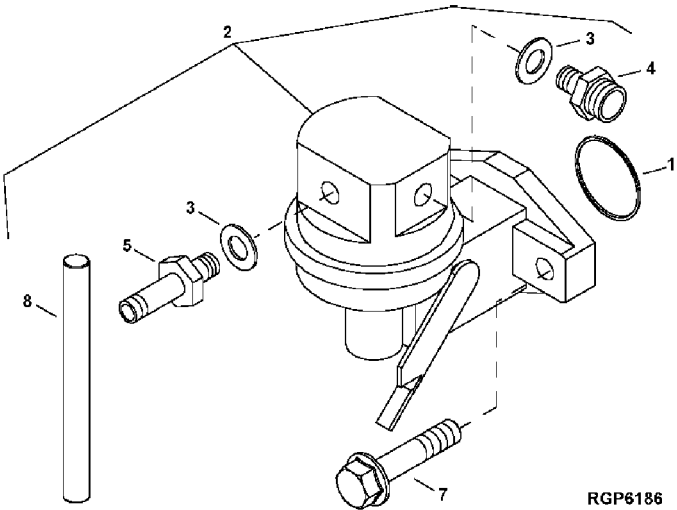


Reproduced by permission of Deere & Company.  
 © 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description     | Quantity  |      |
|------|-------------|-----------------|-----------|------|
|      |             |                 | Variation |      |
|      |             |                 | 164X      | 164Y |
| 1    | #           | Screw, M10 x 20 | 1         | 1    |
| 2    | GM32797     | Bracket         | 1         | 1    |
| 3    | 360171      | Clamp           | 1         | 1    |
| 4    | #           | Flange nut, M10 | 1         | 1    |
| 5    | 223476      | Sealing washer  | 3         | 3    |
| 6    | GM32814     | Line, fuel      | 1         |      |
| 6    | GM32833     | Line, fuel      |           | 1    |
| 7    | GM32831     | Line, fuel      | 1         | 1    |
| 8    | GM17494     | Sealing washer  | 4         | 4    |
| 9    | -           | See Group 14    | 1         | 1    |
| 10   | 360178      | O-ring          | 2         | 2    |
| 11   | 360015      | Plug            | 2         | 2    |
| 12   | 360178      | O-ring          | 2         | 2    |
| 13   | 360037      | Adapter         | 2         | 2    |
| 14   | -           | See Group 17    | 1         | 1    |
| 15   | GM17494     | Sealing washer  | 4         | 4    |
| 16   | GM32830     | Line, fuel      | 1         | 1    |
| 17   | -           | See Group 16    | 1         | 1    |

# Common hardware; procure locally

# Group 16: Fuel Pump

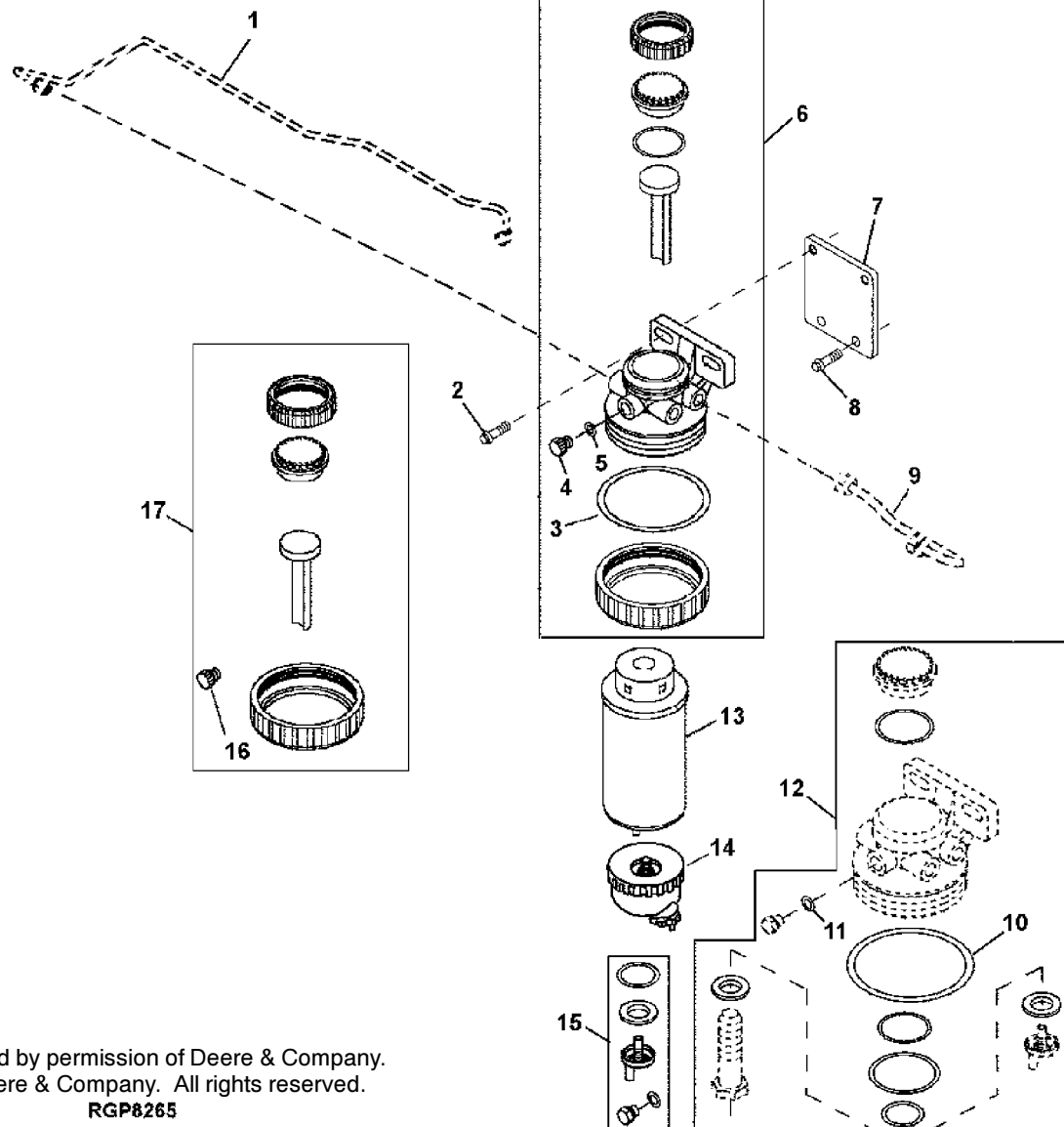


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

RGP6186

| Item | Part Number | Description         | Quantity       |
|------|-------------|---------------------|----------------|
|      |             |                     | Variation 3702 |
| 1    | 360119      | O-ring              | 1              |
| 2    | 360071      | Pump, fuel transfer | 1              |
| 3    | GM17471     | O-ring              | 2              |
| 4    | GM17470     | Fitting             | 1              |
| 5    | GM18722     | Fitting             | 1              |
| 7    | GM17525     | Screw, cap          | 2              |
| 8    | 360159      | Rod, push           | 1              |

## Group 17: Fuel Filter

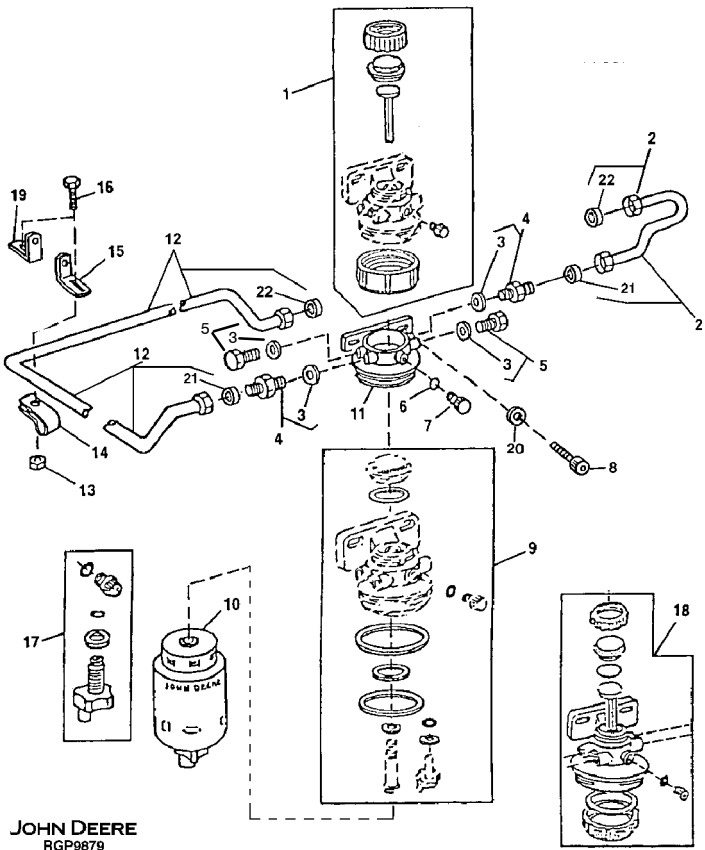


Reproduced by permission of Deere & Company.  
 © 1988 Deere & Company. All rights reserved.  
**RGP8265**

| Item | Part Number | Description                   | Quantity<br>Variation<br>35BV |
|------|-------------|-------------------------------|-------------------------------|
| 1    | -           | Fuel line (See Group 15)      | 1                             |
| 2    | #           | Screw                         | 2                             |
| 3    | 222772      | Seal                          | 1                             |
| 4    | GM17444     | Drain plug                    | 1                             |
| 5    | 352053      | O-ring                        | 1                             |
| 6    | GM32828     | Seal kit                      | 1                             |
| 7    | GM32800     | Bracket                       | 1                             |
| 8    | #           | Screw                         | 2                             |
| 9    | -           | Fuel line (See Group 15)      | 1                             |
| 10   | GM32836     | Ring kit                      | 1                             |
| 11   | 352053      | O-ring                        | 1                             |
| 12   | GM32836     | Ring kit                      | 1                             |
| 13   | GM32827     | Filter element                | 1                             |
| 14   | GM32731     | Bowl, sediment                | 1                             |
| 15   | 360048      | Kit, bleed plug & drain valve | 1                             |
| 16   | GM17444     | Drain plug                    | 1                             |
| 17   | 222773      | Seal kit                      | 1                             |

# Common hardware; procure locally

# Group 17: Fuel Filter



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

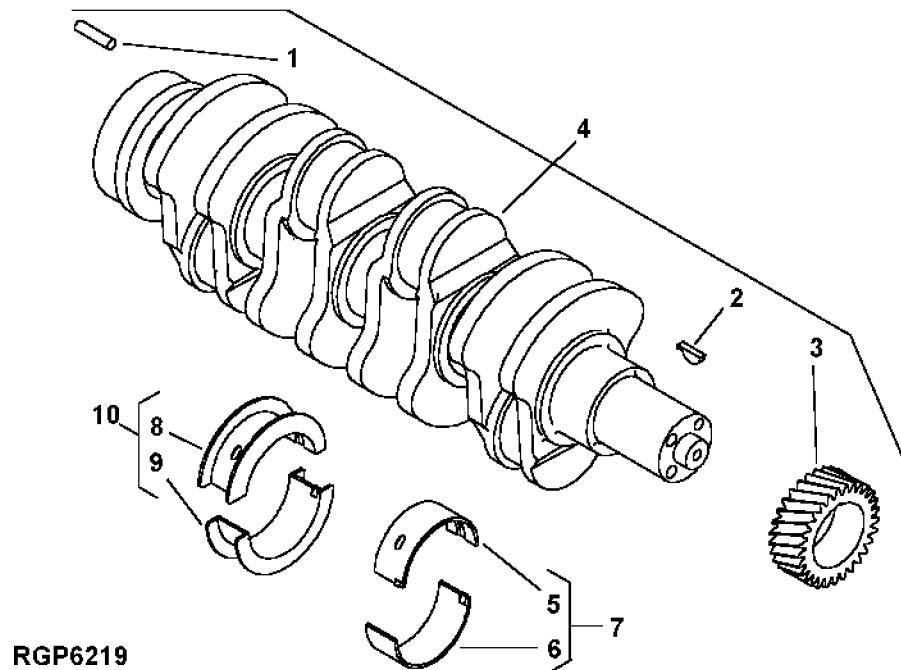
JOHN DEERE  
RGP9879

| Item | Part Number | Description               | Quantity       |
|------|-------------|---------------------------|----------------|
|      |             |                           | Variation 3563 |
| 1    | 222773      | Seal kit                  | 1              |
| 2    | 275502      | Fuel line                 | 1              |
| 2    | GM17494     | Washer                    | 2              |
| 3    | 360178      | O-ring                    | 1              |
| 4    | 360037      | Adapter                   | 2              |
| 5    | 360015      | Plug                      | 1              |
| 6    | X           | O-ring (order item 17)    | 1              |
| 7    | X           | Plug (order item 17)      | 1              |
| 8    | #           | Screw, M10 x 25           | 2              |
| 9    | 222772      | Kit                       | 1              |
| 10   | 336661      | Filter, fuel              | 1              |
| 11   | GM17543     | Kit                       | 1              |
| 12   | GM17534     | Fuel line                 | 1              |
| 13   | #           | Nut, M8                   | 1              |
| 14   | 360171      | Clamp                     | 1              |
| 15   | 360088      | Bracket                   | 1              |
| 16   | #           | Screw, M8 x 16            | 1              |
| 17   | 360048      | Kit                       | 1              |
| 18   | GM17543     | Kit                       | 1              |
| 19   | 223492      | Strap                     | 1              |
| 20   | #           | Washer, 10.5 x 8 x 1.6 mm | 2              |
| 21   | GM17494     | Sealing washer            | 2              |
| 22   | GM17494     | Sealing washer            | 2              |
| 23   | GM32731     | Sediment bowl (not shown) | 1              |

# Common hardware; procure locally

X Not sold separately

## Group 18: Crankshaft

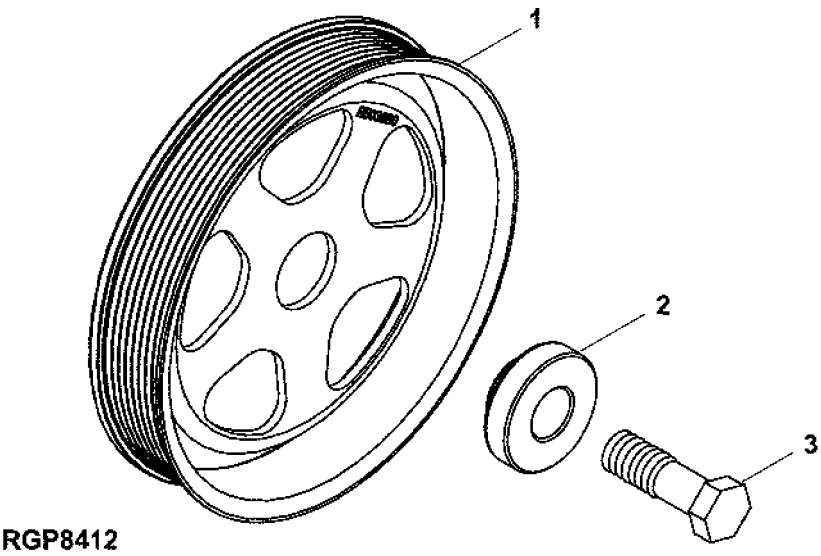


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                    | Quantity       |
|------|-------------|--------------------------------|----------------|
|      |             |                                | Variation 4715 |
| 1    | 223472      | Dowel pin                      | 1              |
| 2    | 360503      | Key, shaft                     | 1              |
| 3    | 360099      | Gear 30 teeth                  | 1              |
| 4    | GM32811     | Crankshaft                     | 1              |
| 5    | X           | Bearing (not sold separately)  | 4              |
| 6    | X           | Bearing (not sold separately)  | 4              |
| 7    | 360049      | Bearing kit, standard          | 4              |
| 7    | 360055      | Bearing kit, undersize .254 mm | 4              |
| 8    | X           | Bearing (not sold separately)  | 4              |
| 9    | X           | Bearing (not sold separately)  | 4              |
| 10   | 360050      | Bearing, standard              | 1              |
| 10   | 360056      | Bearing, undersize .254 mm     | 1              |
| -    | 360581      | Bolt (flywheel/crankshaft)     | 4              |

X Not sold separately

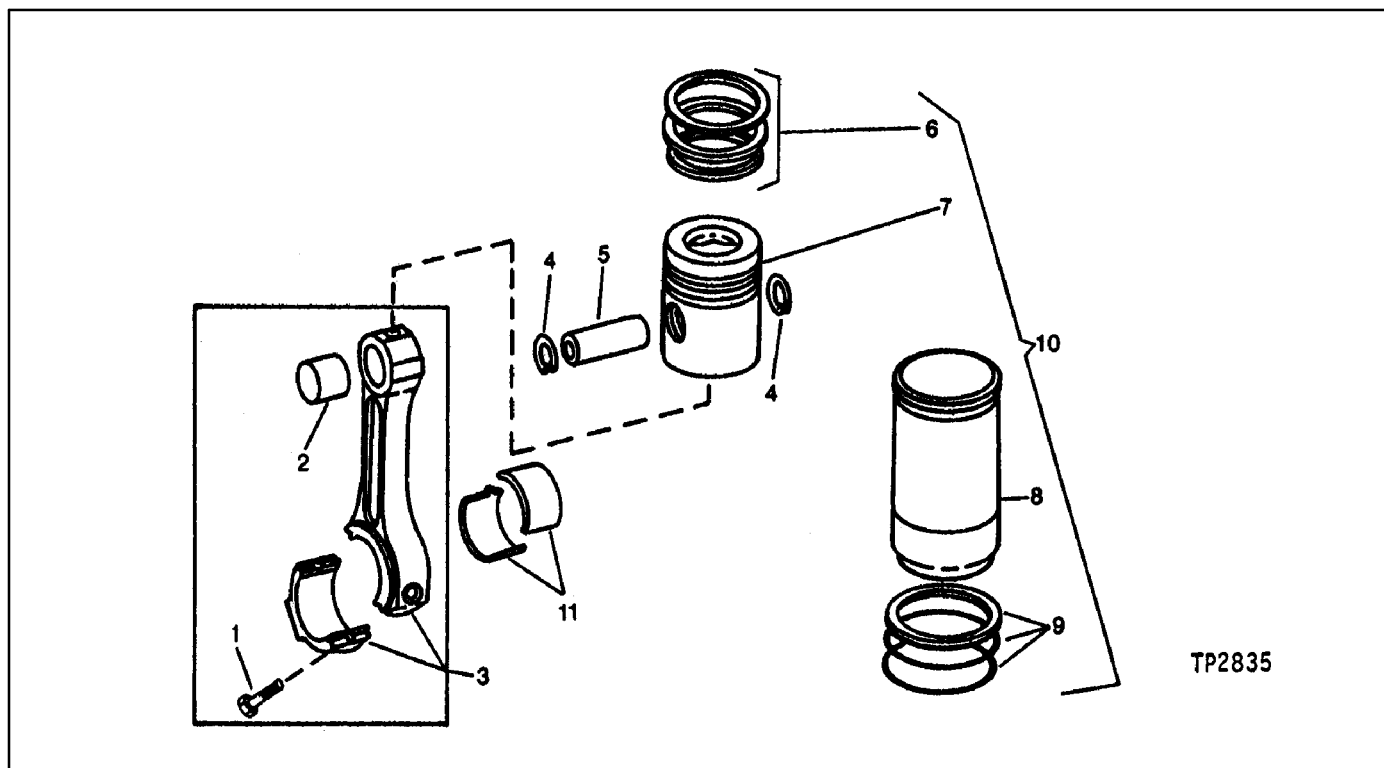
Group 19: Crankshaft Pulley



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description | Quantity  |      |
|------|-------------|-------------|-----------|------|
|      |             |             | Variation |      |
|      |             |             | 1327      | 1328 |
| 1    | GM32799     | Pulley      |           | 1    |
| 1    | GM32794     | Pulley      | 1         |      |
| 2    | GM32801     | Bushing     | 1         | 1    |
| 3    | GM32764     | Bolt        | 1         | 1    |

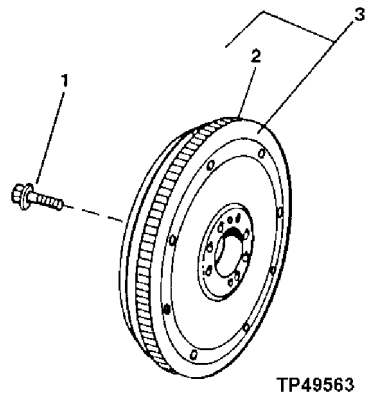
## Group 20: Piston and Connecting Rod



| Item | Part Number | Description               | Quantity  |      |
|------|-------------|---------------------------|-----------|------|
|      |             |                           | Variation |      |
|      |             |                           | 4822      | 4823 |
| 1    | GM17477     | Screw                     | 8         | 8    |
| 2    | GM17446     | Bushing                   | 6         |      |
| 2    | GM17451     | Bushing                   |           | 6    |
| 3    | GM17610     | Rod, connecting           | 4         |      |
| 3    | GM17499     | Rod, connecting           |           | 4    |
| 4    | 223479      | Ring, snap                | 8         |      |
| 4    | 223452      | Ring, snap                |           | 8    |
| 5    | GM17450     | Pin, piston               | 6         |      |
| 5    | 360114      | Pin, piston               |           | 6    |
| 6    | GM32821     | Kit, piston ring          | 4         | 4    |
| 7    | X           | Not sold separately       | 4         | 4    |
| 8    | X           | Not sold separately       | 4         | 4    |
| 9    | 223419      | Kit, O-ring               | 4         | 4    |
| 10   | GM32820     | Kit, piston liner         | 4         |      |
| 10   | GM32823     | Kit, piston liner         |           | 4    |
| 11   | 360053      | Bearing, standard         | 4         | 4    |
| 11   | 360054      | Bearing, .25 mm undersize | 4         | 4    |

X Not sold separately

## Group 21: Flywheel

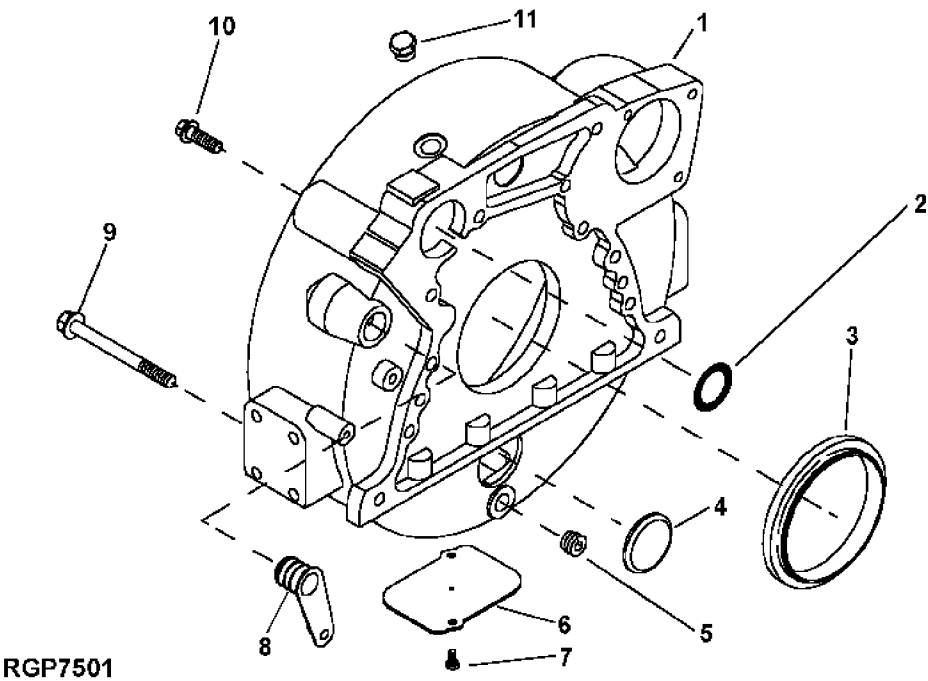


TP49563

Reproduced by permission of Deere & Company,  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description     | Quantity  |      |
|------|-------------|-----------------|-----------|------|
|      |             |                 | Variation |      |
|      |             |                 | 1503      | 1509 |
| 1    | 360581      | Bolt            | 6         | 6    |
| 2    | 223750      | Gear, 129 teeth | 1         | 1    |
| 3    | GM17501     | Flywheel        | 1         |      |
| 3    | GM23840     | Flywheel        |           | 1    |

# Group 22: Flywheel Housing

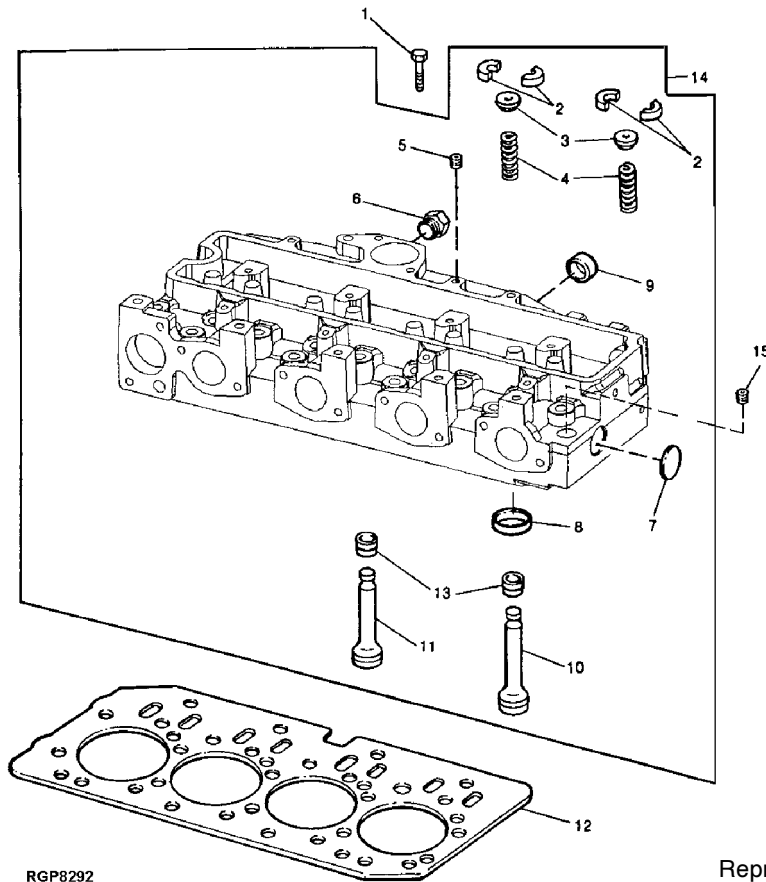


Reproduced by permission of Deere & Company.  
 © 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                           | Quantity       |
|------|-------------|---------------------------------------|----------------|
|      |             |                                       | Variation 1406 |
| 1    | GM24539     | Housing, flywheel (order item 2 also) | 1              |
| 2    | GM24540     | O-ring                                | 1              |
| 3    | 223583      | Seal                                  | 1              |
| 4    | GM17553     | Cap                                   | 1              |
| 5    | GM15403     | Plug, pipe, 1/2 in.                   | 1              |
| 6    | GM17449     | Plate                                 | 1              |
| 7    | #           | Screw, cap                            | 2              |
| 8    | GM17453     | Plug                                  | 1              |
| 9    | #           | Screw, M12 x 50                       | 4              |
| 10   | 360581      | Bolt                                  | 8              |
| 11   | GM17468     | Fitting                               | 1              |

# Common hardware; procure locally

## Group 23: Cylinder Head



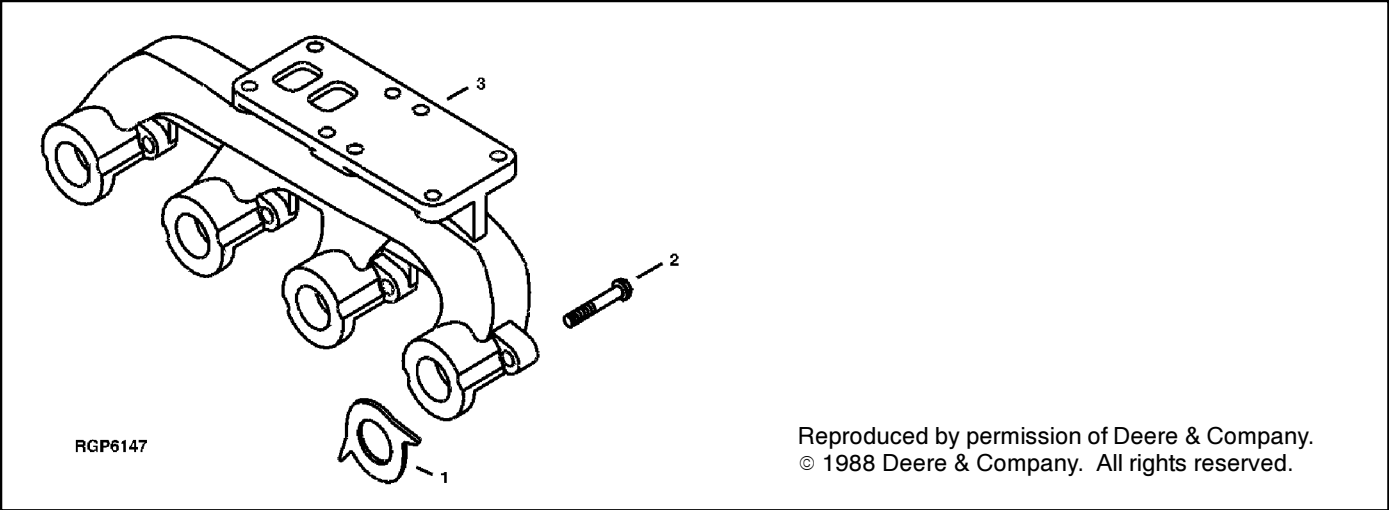
RG8292

Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                                    | Quantity       |
|------|-------------|------------------------------------------------|----------------|
|      |             |                                                | Variation 5102 |
| 1    | 224164      | Screw, cap                                     | 18             |
| 2    | 224184      | Lock                                           | 16             |
| 3    | 224176      | Rotator                                        | 8              |
| 4    | 223455      | Spring                                         | 8              |
| 5    | 224268      | Plug, pipe                                     | 1              |
| 6    | 360174      | Fitting                                        | 1              |
| 6    | 223746      | O-ring                                         | 1              |
| 7    | 223448      | Cap                                            | 1              |
| 8    | GM21433     | Insert, intake valve seat                      | 4              |
| 8    | GM21434     | Insert, exhaust valve seat                     | 4              |
| 9    | 224157      | Cap                                            | 2              |
| 10   | 224156      | Valve, exhaust, standard                       | 4              |
| 10   | 224153      | Valve, exhaust, 0.015 in. (0.381 mm), oversize | AR             |
| 10   | 224151      | Valve, exhaust, 0.030 in. (0.762 mm), oversize | AR             |
| 11   | 224168      | Valve, intake, standard                        | 4              |
| 11   | 224193      | Valve, intake, 0.015 in. (0.381 mm), oversize  | AR             |
| 11   | 224197      | Valve, intake, 0.030 in. (0.762 mm), oversize  | AR             |
| 12   | 360531      | Gasket, cylinder head                          | 1              |
| 13   | 224243      | Seal                                           | 8              |
| 14   | 360532      | Head, cylinder                                 | 1              |
| 15   | 224268      | Plug, pipe                                     | 1              |

AR As Required

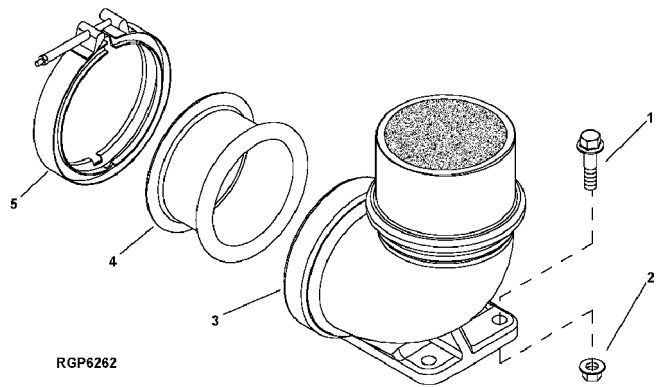
# Group 24: Exhaust Manifold



| Item | Part Number | Description                          | Quantity       |
|------|-------------|--------------------------------------|----------------|
|      |             |                                      | Variation 2803 |
| 1    | 223547      | Gasket                               | 4              |
| 2    | #           | Screw, M10 x 80                      | 8              |
| 3    | 360534      | Manifold, exhaust (4045TF275 engine) | 1              |
| 3    | GM32803     | Manifold, exhaust (4045TF270 engine) | 1              |

# Common hardware; procure locally

# Group 25: Exhaust Elbow

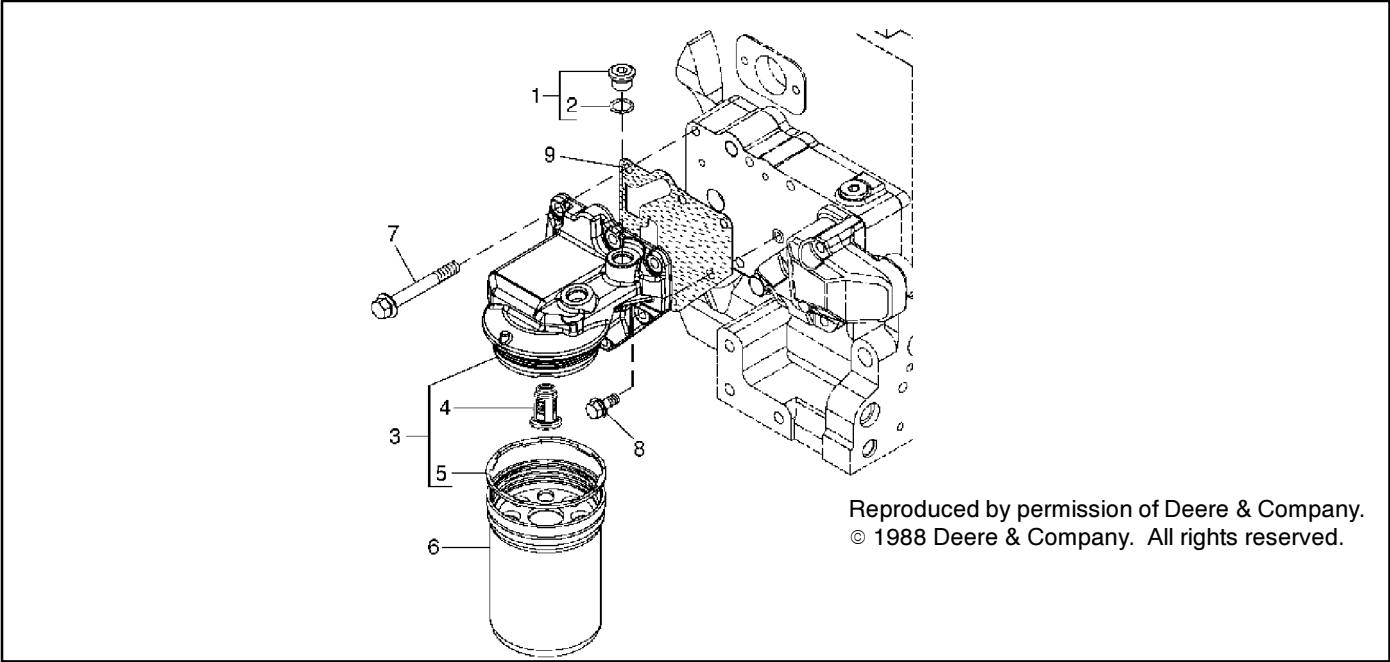


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description          | Quantity       |
|------|-------------|----------------------|----------------|
|      |             |                      | Variation 6401 |
| 1    | #           | Screw, cap, M10 x 40 | 4              |
| 2    | #           | Nut, flange, M10     | 4              |
| 3    | 360117      | Elbow, pipe          | 1              |
| 4    | 223891      | Adapter              | 1              |
| 5    | 224132      | Clamp                | 1              |

# Common hardware; procure locally

# Group 26: Oil Filter

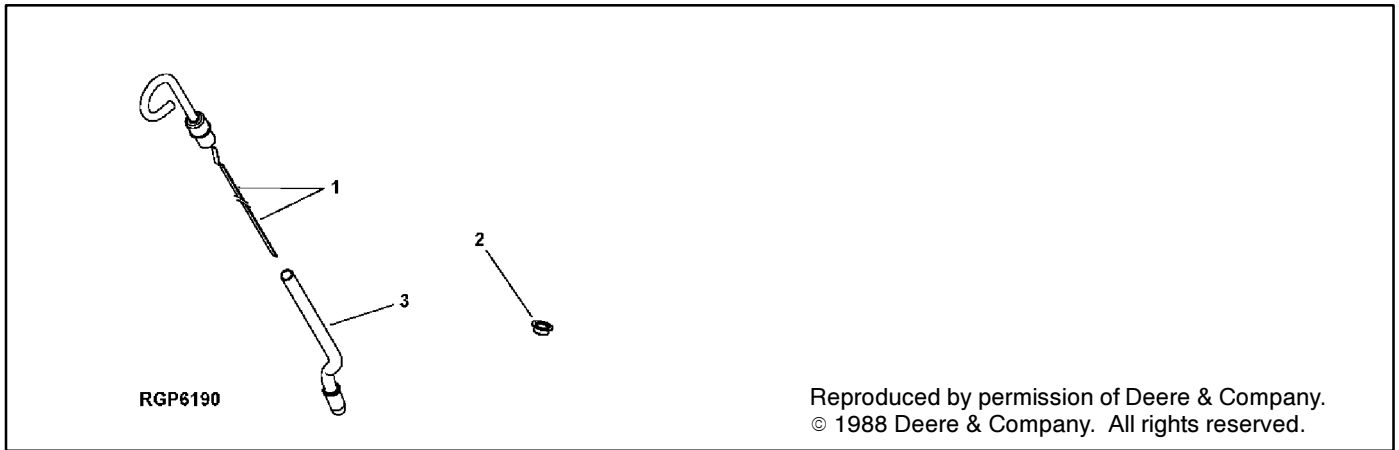


Reproduced by permission of Deere & Company.  
 © 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description    | Quantity       |
|------|-------------|----------------|----------------|
|      |             |                | Variation 8842 |
| 1    | GM24535     | Plug           | 1              |
| 2    | 360557      | O-ring         | 1              |
| 3    | GM32808     | Filter head    | 1              |
| 4    | GM32807     | Valve          | 1              |
| 5    | GM32787     | Seal           | 1              |
| 6    | GM32809     | Filter, oil    | 1              |
| 7    | #           | Screw, M8 x 65 | 5              |
| 8    | GM24536     | Screw          | 1              |
| 9    | GM24537     | Gasket         | 1              |

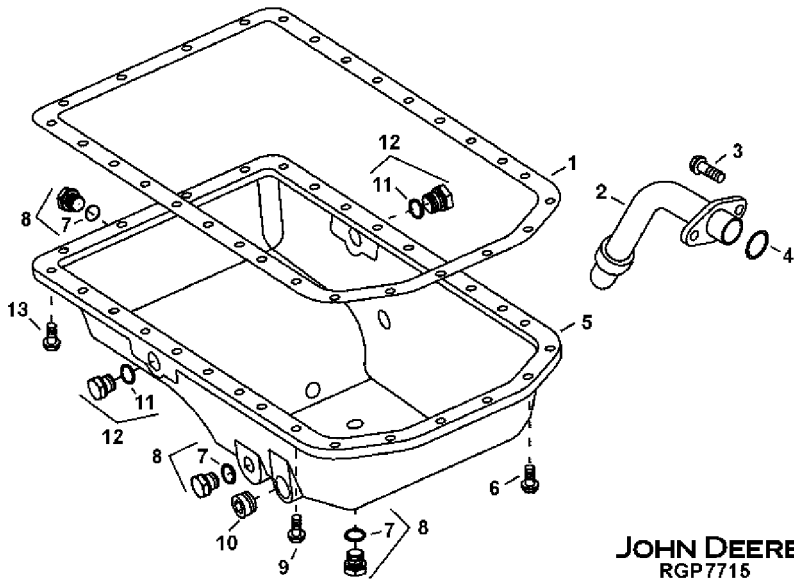
# Common hardware; procure locally

## Group 27: Dipstick



| Item | Part Number | Description    | Quantity       |
|------|-------------|----------------|----------------|
|      |             |                | Variation 4002 |
| 1    | 360073      | Dipstick       | 1              |
| 2    | GM32789     | Plug           | 1              |
| 3    | GM32788     | Tube, dipstick | 1              |

## Group 28: Oil Pan

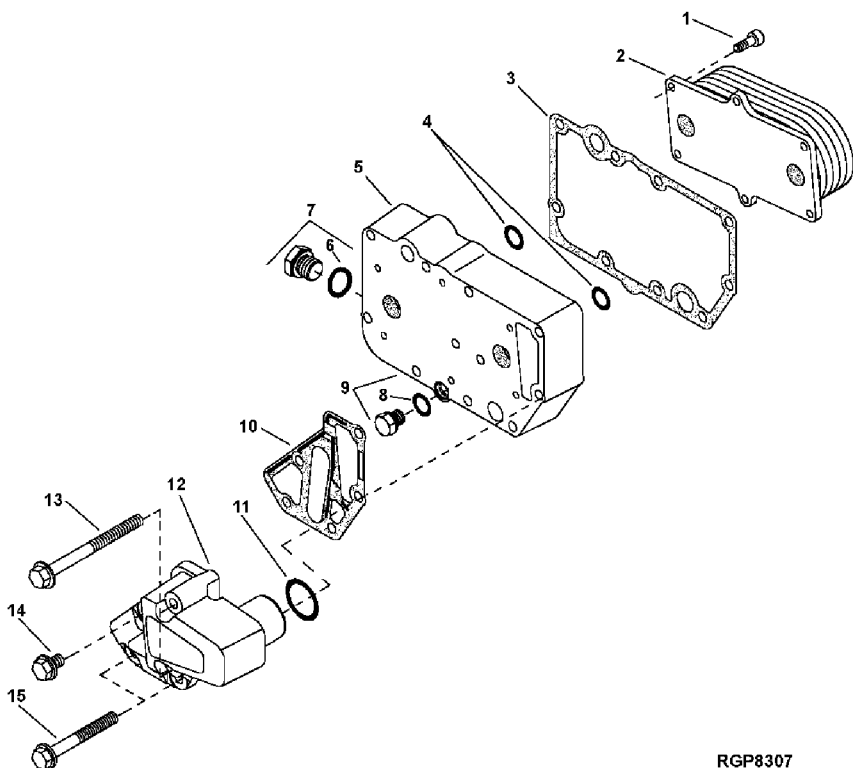


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description         | Quantity  |      |
|------|-------------|---------------------|-----------|------|
|      |             |                     | Variation |      |
|      |             |                     | 1904      | 1923 |
| 1    | 360527      | Gasket, oil pan     | 1         | 1    |
| 2    | 360523      | Intake, oil pump    | 1         |      |
| 2    | GM32846     | Intake, oil pump    |           | 1    |
| 3    | #           | Screw, M8 x 100     | 2         | 2    |
| 4    | 224035      | O-ring              | 1         | 1    |
| 5    | 360529      | Pan, oil            | 1         |      |
| 5    | GM32780     | Pan, oil            |           | 1    |
| 6    | #           | Screw, M8 x 30      | 6         | 6    |
| 7    | 360176      | O-ring              | 3         | 1    |
| 8    | 360014      | Plug                | 3         | 1    |
| 9    | #           | Screw, M8 x 25      | 18        | 18   |
| 10   | #           | Plug, pipe, 3/4 in. | 1         |      |
| 11   | GM17437     | O-ring              | 2         | 2    |
| 12   | GM17498     | Fitting             | 2         | 2    |
| 13   | #           | Screw, M8 x 45      | 4         | 4    |

# Common hardware; procure locally

# Group 29: Oil Cooler



RGP8307

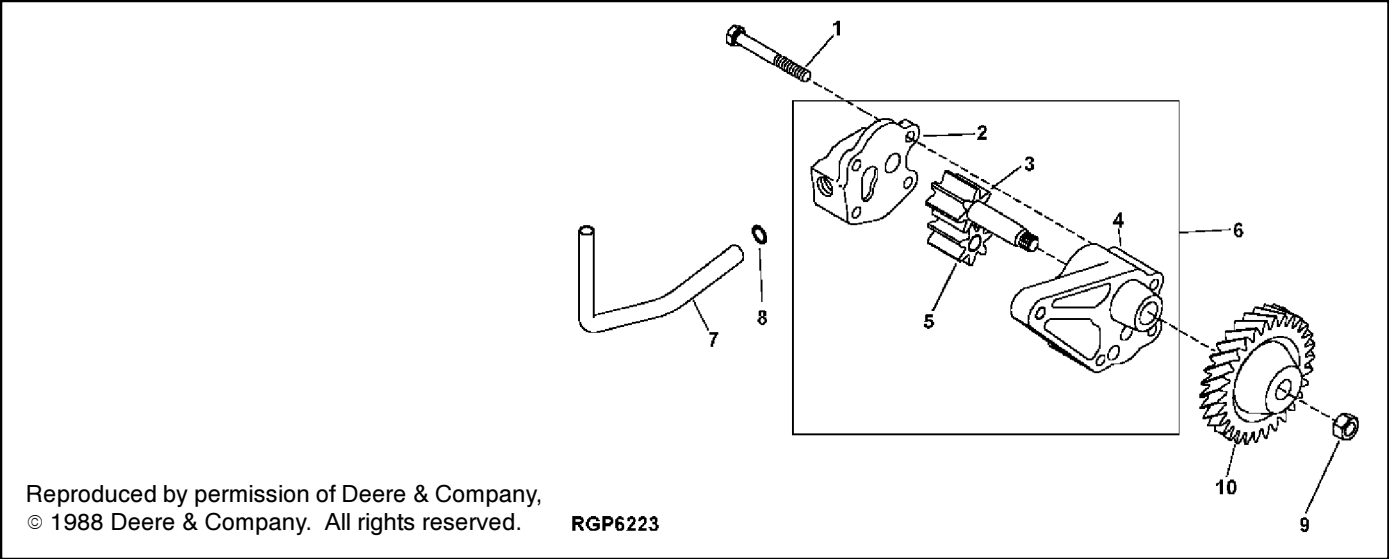
Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number        | Description            | Quantity<br>Variation<br>5901 |
|------|--------------------|------------------------|-------------------------------|
| 1    | #                  | Screw, M6 x 16         | 6                             |
| 2    | GM17531            | Cooler, oil            | 1                             |
| 3    | 360130             | Gasket                 | 1                             |
| 4    | 360170             | O-ring                 | 2                             |
| 5    | 360127             | Housing                | 1                             |
| 6    | 360176             | O-ring                 | 1                             |
| 7    | 360014             | Plug (includes O-ring) | 1                             |
| 8    | 360178             | O-ring                 | 1                             |
| 9    | 360015             | Plug (includes O-ring) | 1                             |
| 10   | GM17479            | Gasket                 | 1                             |
| 11   | <del>GM24553</del> | O-ring                 | 1                             |
| 12   | GM32790            | Adapter                | 1                             |
| 13   | #                  | Screw, M8 x 100        | 2                             |
| 14   | #                  | Screw, M8 x 20         | 1                             |
| 15   | #                  | Screw, M8 x 65         | 2                             |

GM24543

# Common hardware; procure locally

# Group 30: Oil Pump

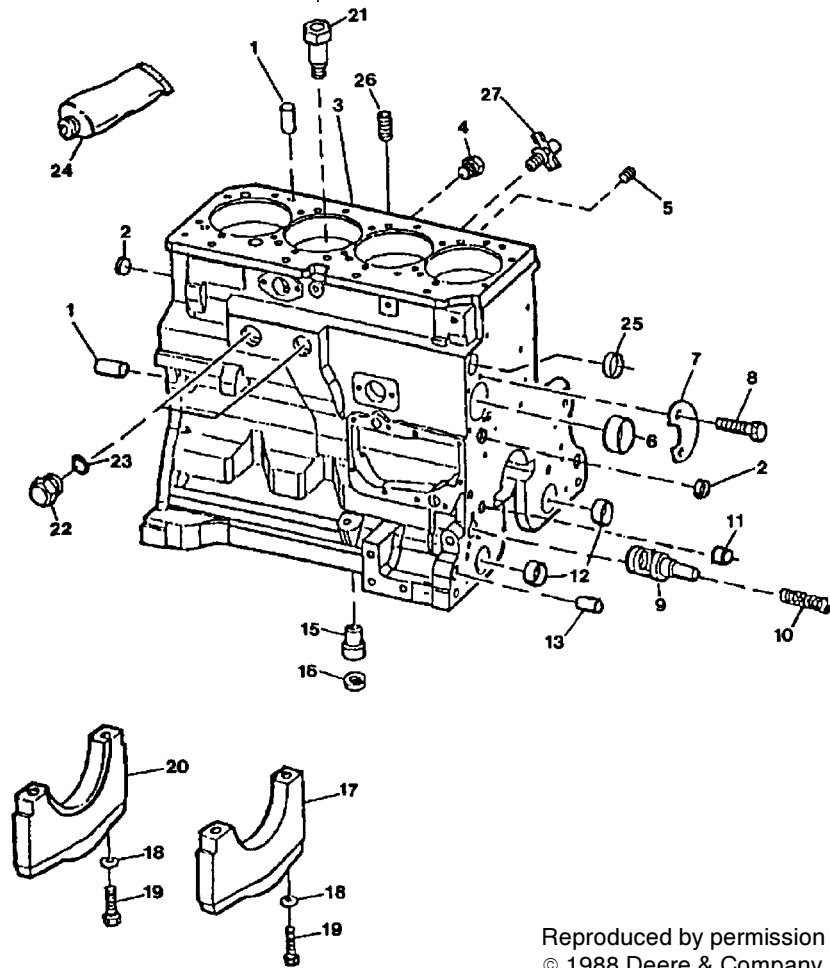


Reproduced by permission of Deere & Company,  
© 1988 Deere & Company. All rights reserved. **RGP6223**

| Item | Part Number | Description                                 | Quantity  |      |
|------|-------------|---------------------------------------------|-----------|------|
|      |             |                                             | Variation |      |
|      |             |                                             | 5001      | 5002 |
| 1    | #           | Screw, M8 x 65                              | 2         | 2    |
| 2    | -           | Cover (not sold separately, order item 6)   | 1         | 1    |
| 3    | -           | Gear (not sold separately, order item 6)    | 1         | 1    |
| 4    | -           | Housing (not sold separately, order item 6) | 1         | 1    |
| 5    | -           | Gear (not sold separately, order item 6)    | 1         | 1    |
| 6    | 360028      | Pump, oil                                   | 1         | 1    |
| 7    | 360104      | Tube                                        | 1         | 1    |
| 8    | 336458      | O-ring                                      | 1         | 1    |
| 9    | #           | Nut, M12                                    | 1         | 1    |
| 10   | 360524      | Gear, 30 teeth                              | 1         | 1    |

# Common hardware; procure locally

## Group 31: Cylinder Block

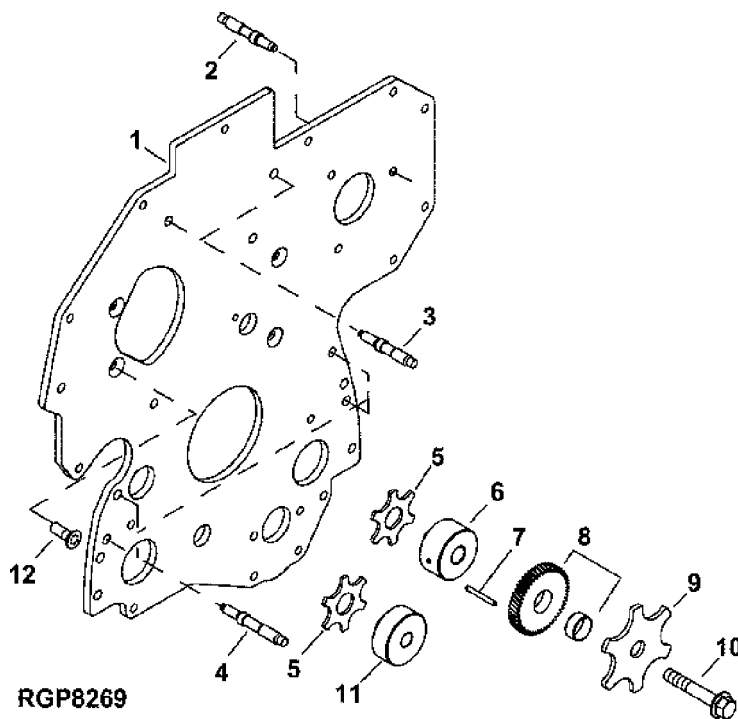


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                       | Quantity  |      |
|------|-------------|-----------------------------------|-----------|------|
|      |             |                                   | Variation |      |
|      |             |                                   | 4614      | 4616 |
| 1    | 223472      | Dowel pin                         | 4         | 4    |
| 2    | 360517      | Cap                               | 2         | 2    |
| 3    | 360093      | Plug                              | 1         | 1    |
| 4    | —           | Block, cylinder (see short block) | 1         | 1    |
| 5    | 223802      | Plug, pipe                        | 1         | 1    |
| 6    | 224268      | Plug, pipe                        | 5         | 5    |
| 7    | 352246      | Bushing                           | 1         | 1    |
| 8    | 360154      | Plate, thrust                     | 1         | 1    |
| 9    | #           | Screw, M8x 25                     | 2         | 2    |
| 10   | 360103      | Valve, engine oil bypass          | 1         | 1    |
| 11   | 360080      | Spring                            | 1         | 1    |
| 12   | GM32810     | Valve, bleed                      | 1         | 1    |
| 13   | 350519      | Bushing                           | 6         | 6    |
| 14   | 352064      | Dowel pin                         | 2         | 2    |
| 15   | 360087      | Bushing                           | 1         | 1    |
| 16   | 223512      | O-ring                            | 1         | 1    |
| 17   | 360084      | Cap, main bearing                 | 4         | 4    |
| 18   | 224089      | Washer                            | 10        | 10   |
| 19   | 223639      | Screw, cap                        | 10        | 10   |
| 20   | 360151      | Cap, main thrust bearing          | 1         | 1    |
| 21   | 360146      | Jet                               | 4         | 4    |
| 22   | GM32824     | Plug                              | 2         | 2    |
| 23   | 223988      | O-ring                            | 2         | 2    |
| 24   | 360173      | Gasket                            | 1         | 1    |
| 25   | 360093      | Plug                              | 1         | 1    |
| 26   | GM15403     | Plug, pipe                        | 1         | 1    |
| 27   | 223435      | Drain valve                       | 1         | 1    |

# Common hardware; procure locally

## Group 32: Front Plate



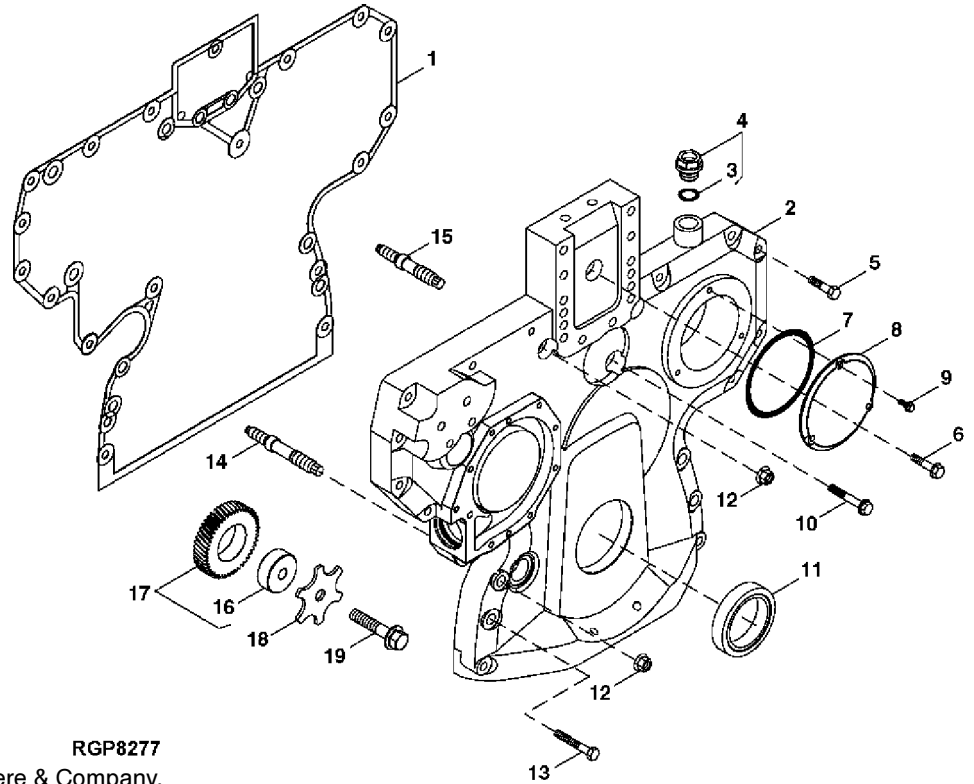
Reproduced by permission of Deere & Company,  
© 1988 Deere & Company. All rights reserved.

**RGP8269**

| Item | Part Number | Description   | Quantity          |
|------|-------------|---------------|-------------------|
|      |             |               | Variation<br>3618 |
| 1    | GM23829     | Plate, front  | 1                 |
| 2    | 360092      | Stud          | 3                 |
| 3    | 360514      | Stud          | 2                 |
| 4    | 360140      | Stud          | 4                 |
| 5    | 336446      | Thurst washer | 2                 |
| 6    | 360101      | Shaft (upper) | 1                 |
| 7    | 360179      | Pin, spring   | 1                 |
| 8    | 360020      | Gear          | 1                 |
| 9    | 360147      | Thurst washer | 1                 |
| 10   | #           | Screw         | 1                 |
| 11   | 360083      | Shaft (lower) | 1                 |
| 12   | 360516      | Screw         | 4                 |

# Common hardware; procure locally

## Group 33: Timing Gear Cover



RGP8277

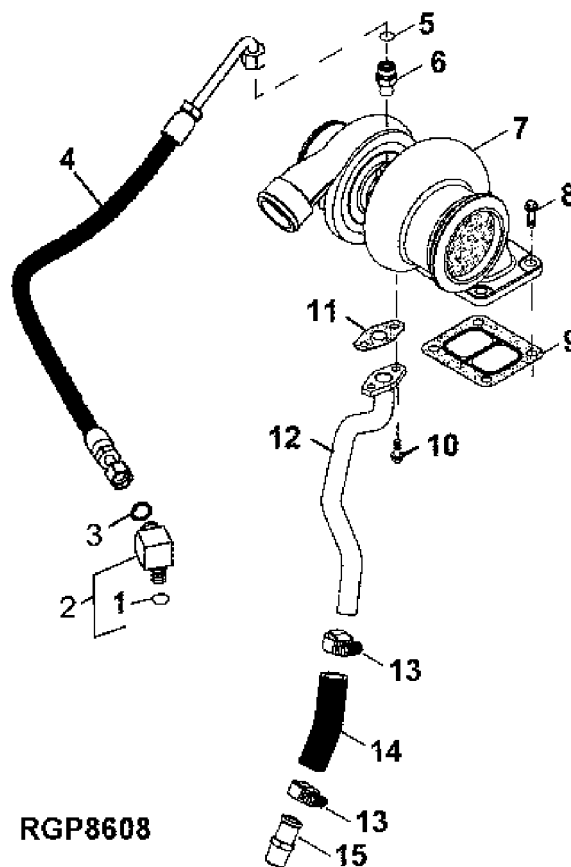
Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description           | Quantity<br>Variation<br>4429 |
|------|-------------|-----------------------|-------------------------------|
| 1    | 360125      | Gasket, gear cover    | 1                             |
| 2    | GM32796     | Cover, gear           | 1                             |
| 3    | 360180      | O-ring, 17.3 x 2.2 mm | 1                             |
| 4    | GM17508     | Plug                  | 1                             |
| 5    | 360512      | Screw                 | 1                             |
| 6    | #           | Screw, M8 x 35        | 1                             |
| 6    | #           | Screw, M8 x 60        | 1                             |
| 7    | 360107      | O-ring                | 1                             |
| 8    | 360105      | Cover                 | 1                             |
| 9    | #           | Screw, M6 x 16        | 3                             |

| Item | Part Number | Description   | Quantity<br>Variation<br>4429 |
|------|-------------|---------------|-------------------------------|
| 10   | 360512      | Screw         | 2                             |
| 11   | 360181      | Seal kit      | 1                             |
| 12   | #           | Nut, flange   | 6                             |
| 13   | #           | Screw         | 2                             |
| 14   | 360140      | Stud          | 4                             |
| 15   | 360514      | Stud          | 2                             |
| 16   | 360082      | Bushing       | 1                             |
| 17   | 360021      | Gear          | 1                             |
| 18   | 360148      | Thrust washer | 1                             |
| 19   | #           | Screw         | 1                             |

# Common hardware; procure locally

## Group 34: Turbocharger and Oil Lines



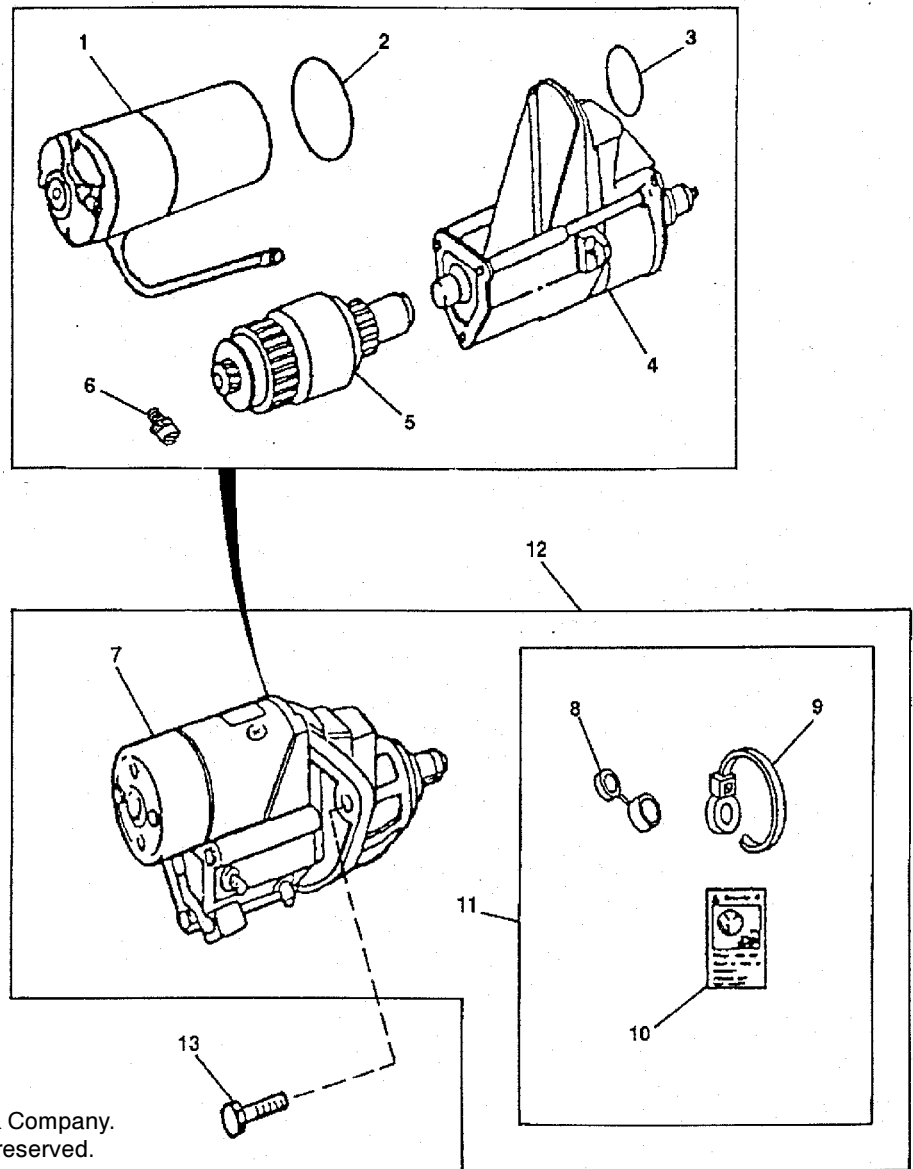
Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

**RGP8608**

| Item | Part Number | Description                       | Quantity          |
|------|-------------|-----------------------------------|-------------------|
|      |             |                                   | Variation<br>65HE |
| 1    | 360557      | O-ring                            | 2                 |
| 2    | 360556      | Fitting, elbow, 45 deg.           | 1                 |
| 3    | 360555      | O-ring                            | 1                 |
| 4    | GM23842     | Oil line                          | 1                 |
| 5    | 360165      | O-ring                            | 1                 |
| 6    | 360006      | Adapter                           | 1                 |
| 7    | GM32838     | Turbocharger                      | 1                 |
| 8    | #           | Screw                             | 4                 |
| 9    | 360137      | Gasket, turbo to exhaust manifold | 1                 |
| 10   | #           | Screw                             | 2                 |
| 11   | 360136      | Gasket, turbo oil outlet tube     | 1                 |
| 12   | 360558      | Oil line                          | 1                 |
| 13   | 360062      | Clamp                             | 2                 |
| 14   | 224055      | Hose                              | 1                 |
| 15   | GM21492     | Fitting, hose                     | 1                 |

# Common hardware; procure locally

## Group 35: Starter Motor

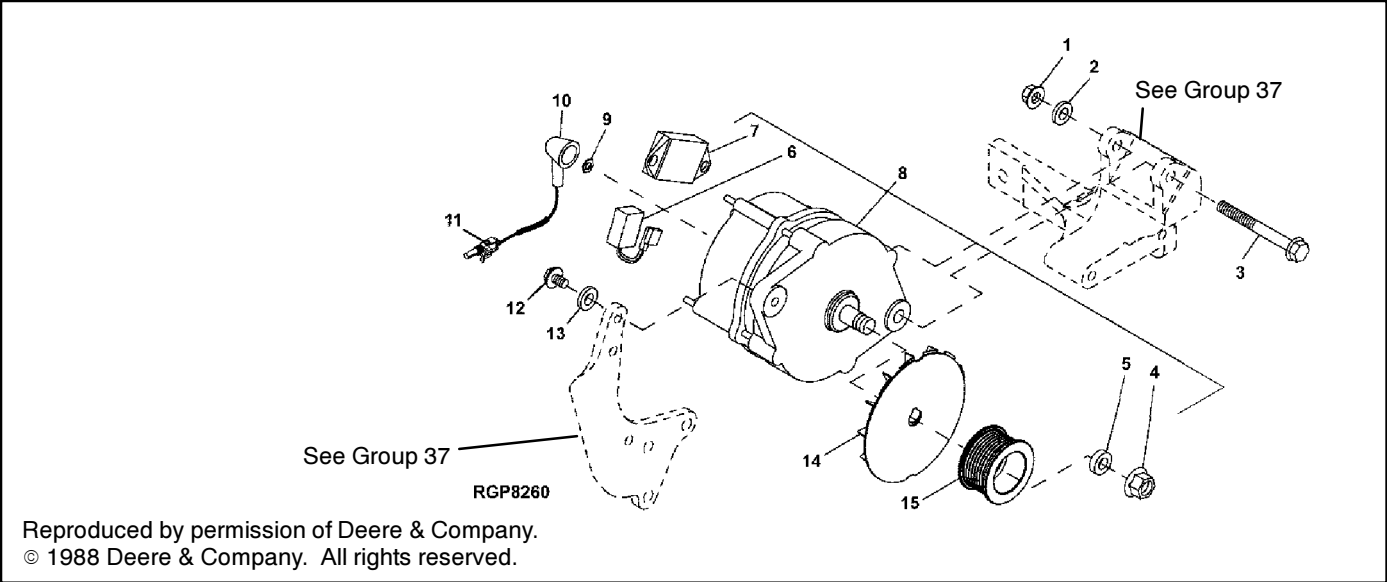


Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                  | Quantity  |      |
|------|-------------|------------------------------|-----------|------|
|      |             |                              | Variation |      |
|      |             |                              | 3006      | 3041 |
| 1    | —           | Motor                        | 1         | 1    |
| 2    | GM17463     | Seal                         | 1         | 1    |
| 3    | GM17464     | O-ring                       | 1         | 1    |
| 4    | GM17544     | Switch                       | 1         |      |
| 4    | GM17546     | Switch                       |           | 1    |
| 5    | GM17545     | Clutch                       | 1         |      |
| 5    | GM17547     | Clutch                       |           | 1    |
| 6    | GM18874     | Screw, with washer, M5 x 0.8 | 1         | 1    |
| 7    | —           | Motor, starter               | 1         | 1    |
| 8    | —           | Cover                        | 1         | 1    |
| 9    | GM17495     | Tie band                     | 1         | 1    |
| 10   | GM17554     | Label                        | 1         | 1    |
| 11   | GM17548     | Kit                          | 1         | 1    |
| 12   | 352390      | Starter                      | 1         |      |
| 12   | GM16801     | Starter, 24 V                |           | 1    |
| 13   | #           | Screw, M10 x 30              | 3         | 3    |

# Common hardware; procure locally

# Group 36: Alternator

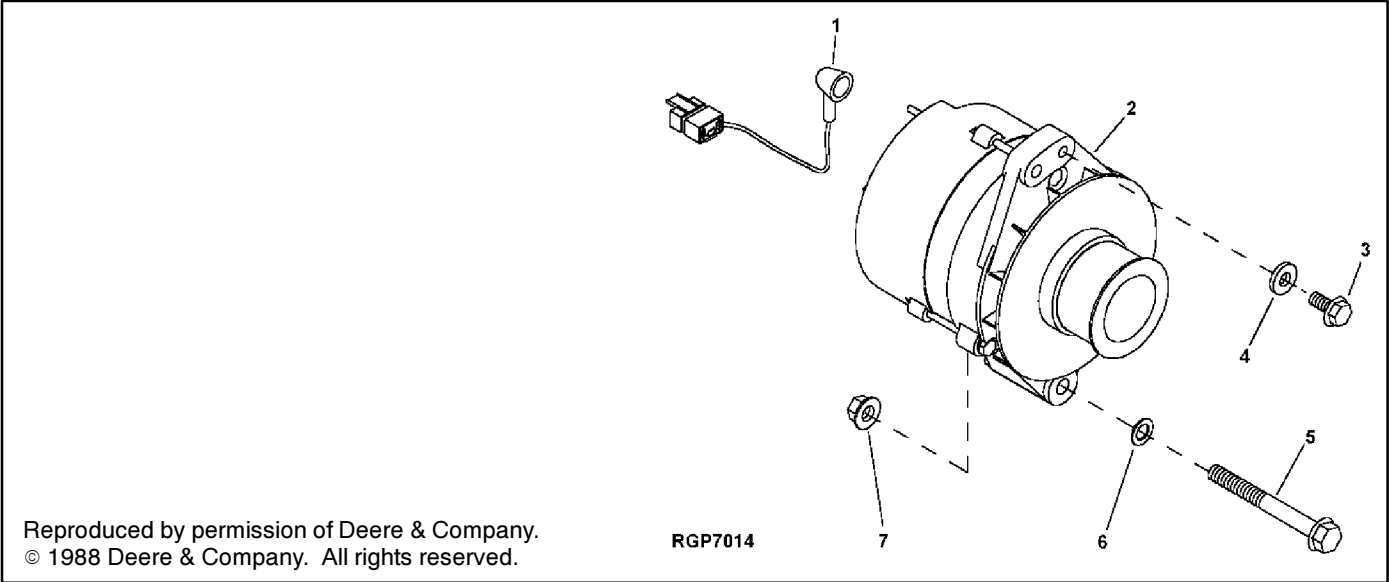


Reproduced by permission of Deere & Company.  
 © 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description        | Quantity  |      |
|------|-------------|--------------------|-----------|------|
|      |             |                    | Variation |      |
|      |             |                    | 3138      | 3142 |
| 1    | #           | Nut, flange        | 1         | 1    |
| 2    | 360166      | Washer             | 1         | 1    |
| 3    | #           | Screw              | 1         | 1    |
| 4    | #           | Nut                | 1         | 1    |
| 5    | 224331      | Washer             | 1         | 1    |
| 6    | 360589      | Capacitor          | 1         |      |
| 7    | 360591      | Regulator          | 1         |      |
| 8    | 360001      | Alternator, 12 V   | 1         |      |
| 8    | GM17440     | Alternator, 24 V   |           | 1    |
| 9    | #           | Nut                | 1         | 1    |
| 10   | GM32923     | Harness, wiring    | 1         | 1    |
| 11   | GM32805     | Connector          | 1         | 1    |
| 12   | #           | Screw, M8 x 25     | 1         | 1    |
| 13   | GM18719     | Washer             | 1         | 1    |
| 14   | 360588      | Fan                | 1         | 1    |
| 15   | GM17485     | Pulley, alternator | 1         | 1    |

# Common hardware; procure locally

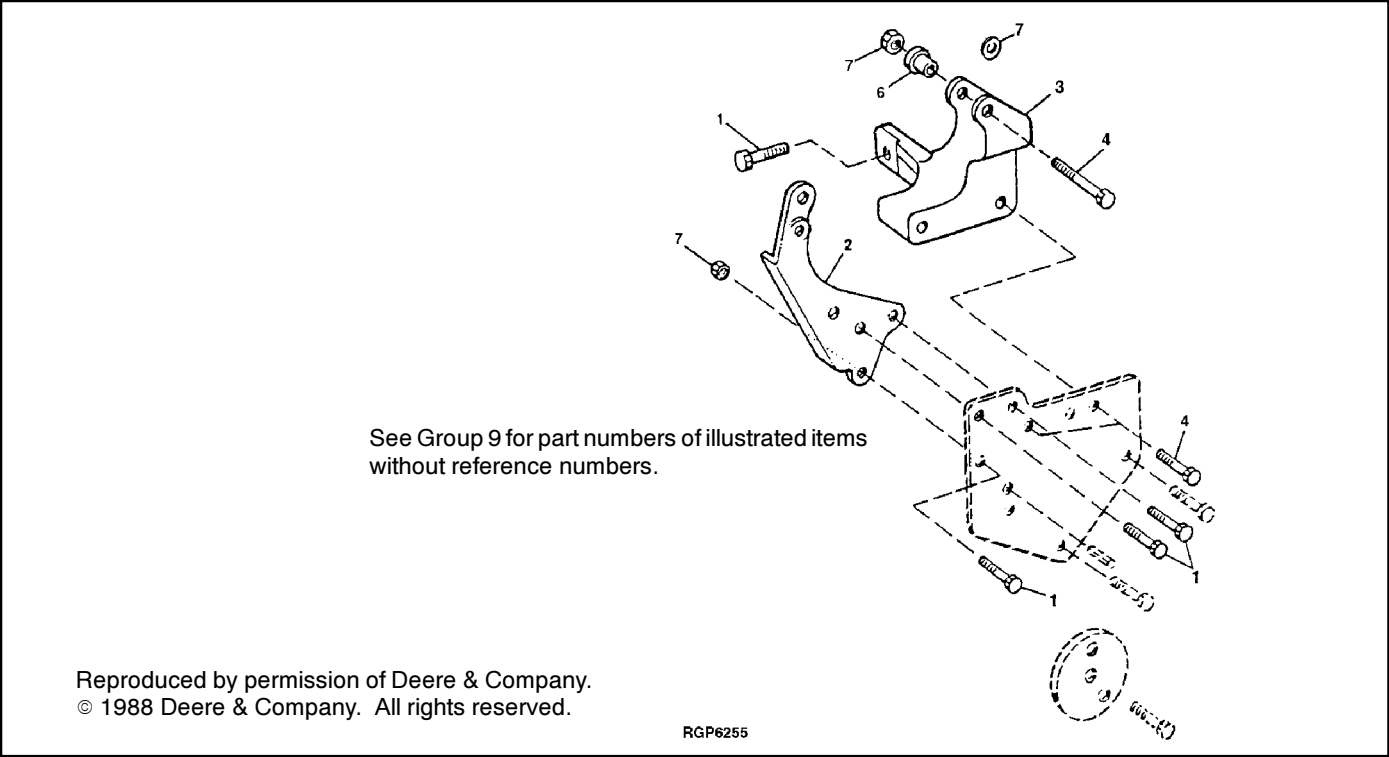
# Group 36: Alternator



| Item | Part Number | Description      | Quantity       |
|------|-------------|------------------|----------------|
|      |             |                  | Variation 3122 |
| 1    | GM21518     | Harness, wiring  | 1              |
| 2    | GM23850     | Alternator       | 1              |
| 3    | #           | Screw, M8 x 25   | 1              |
| 4    | GM32782     | Washer           | 1              |
| 5    | #           | Screw, M10 x 100 | 1              |
| 6    | 360166      | Washer, thrust   | 1              |
| 7    | #           | Nut, M10         | 1              |

# Common hardware; procure locally

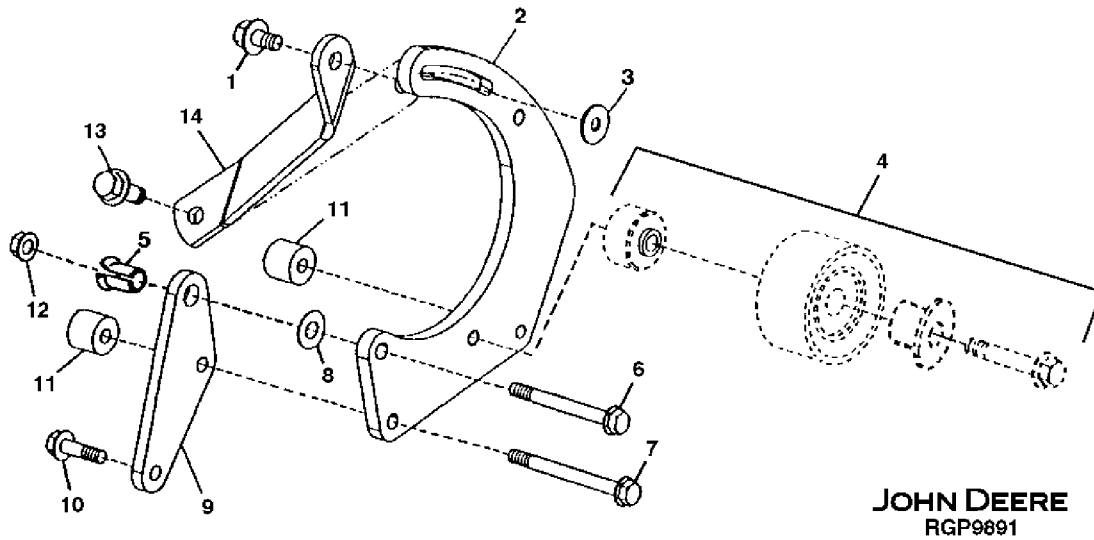
# Group 37: Alternator Mounting



| Item | Part Number | Description          | Quantity       |
|------|-------------|----------------------|----------------|
|      |             |                      | Variation 6201 |
| 1    | #           | Screw, M10 x 30      | 5              |
| 2    | GM17455     | Strap                | 1              |
| 3    | 360150      | Bracket              | 1              |
| 4    | #           | Screw, cap, M10 x 25 | 2              |
| 6    | 360076      | Bushing              | 1              |
| 7    | #           | Nut, flange, M10     | 3              |

# Common hardware; procure locally

## Group 37: Alternator Mounting



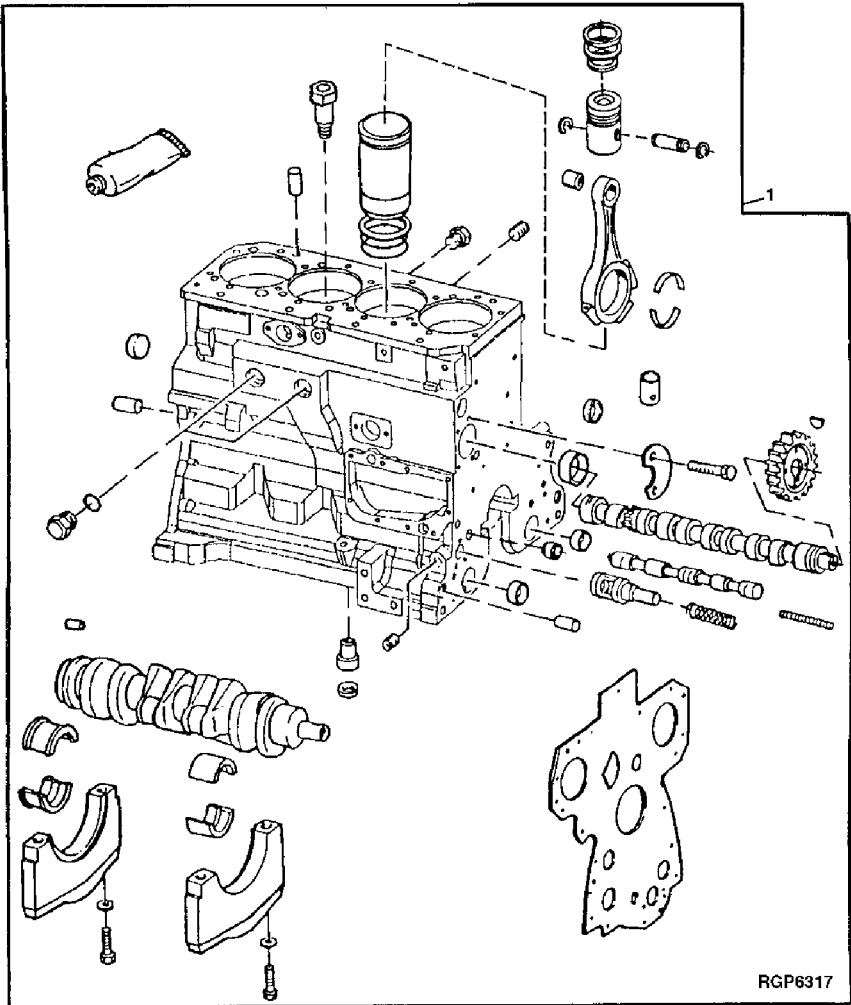
**JOHN DEERE**  
RGP9891

Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description             | Quantity  |      |
|------|-------------|-------------------------|-----------|------|
|      |             |                         | Variation |      |
|      |             |                         | 6211      | 6212 |
| 1    | #           | Screw, M10 x 16         | 1         | 1    |
| 2    | GM32795     | Bracket                 | 1         | 1    |
| 3    | #           | Washer, 8.4 x 24 x 2 mm | 1         | 1    |
| 4    | -           | See Group 9             | 1         | 1    |
| 5    | GM23838     | Bushing                 | 1         | 1    |
| 6    | #           | Screw, M8 x 80          | 1         | 1    |
| 7    | #           | Screw, M8 x 100         | 1         | 1    |
| 8    | 360166      | Thrust washer           |           | 1    |
| 9    | GM23834     | Bracket                 | 1         | 1    |
| 10   | #           | Screw, M8 x 30          | 1         | 1    |
| 11   | GM23837     | Spacer                  | 2         | 2    |
| 12   | #           | Nut, M8                 | 1         | 1    |
| 13   | #           | Screw, M10 x 25         | 1         | 1    |
| 14   | GM23836     | Bracket                 | 1         | 1    |

# Common hardware; procure locally

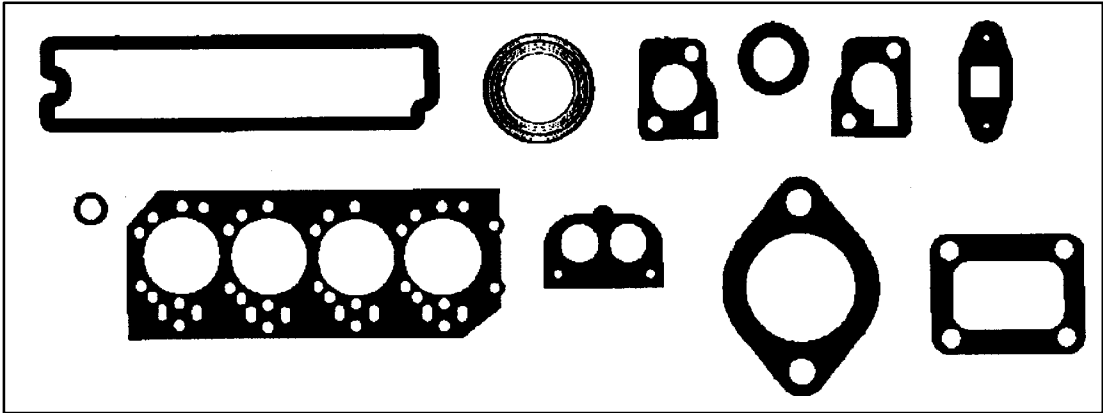
# Group 38: Short Block



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                       | Quantity       |
|------|-------------|-----------------------------------|----------------|
|      |             |                                   | Variation 9901 |
| 1    | GM32843     | Block assembly, short (4045TF270) | 1              |
| 1    | GM32832     | Block assembly, short (4045HF275) | 1              |

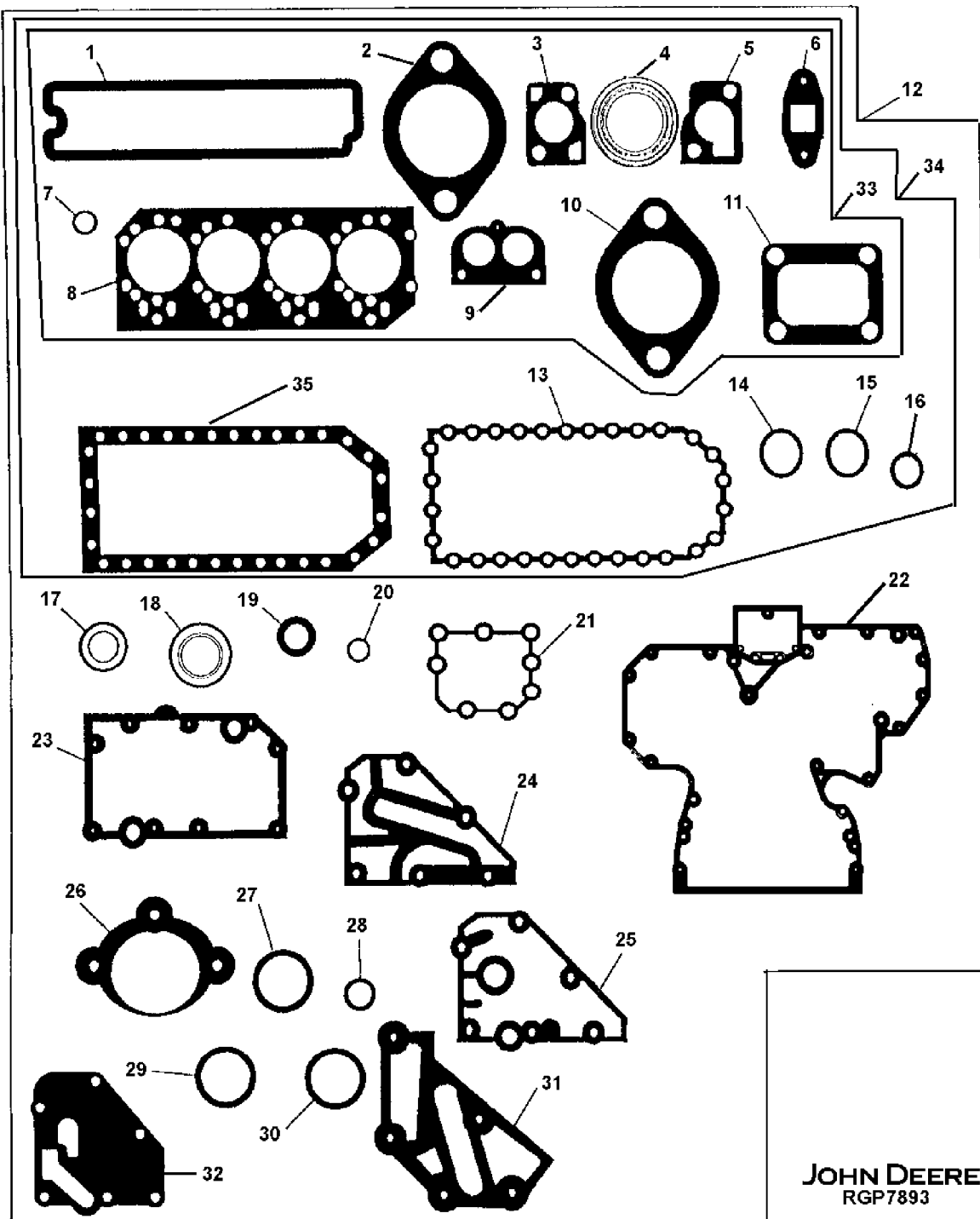
Group 39: Cylinder Head Gasket Set



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description               | Quantity       |
|------|-------------|---------------------------|----------------|
|      |             |                           | Variation 9901 |
| 1    | 360586      | Gasket kit, cylinder head | 1              |

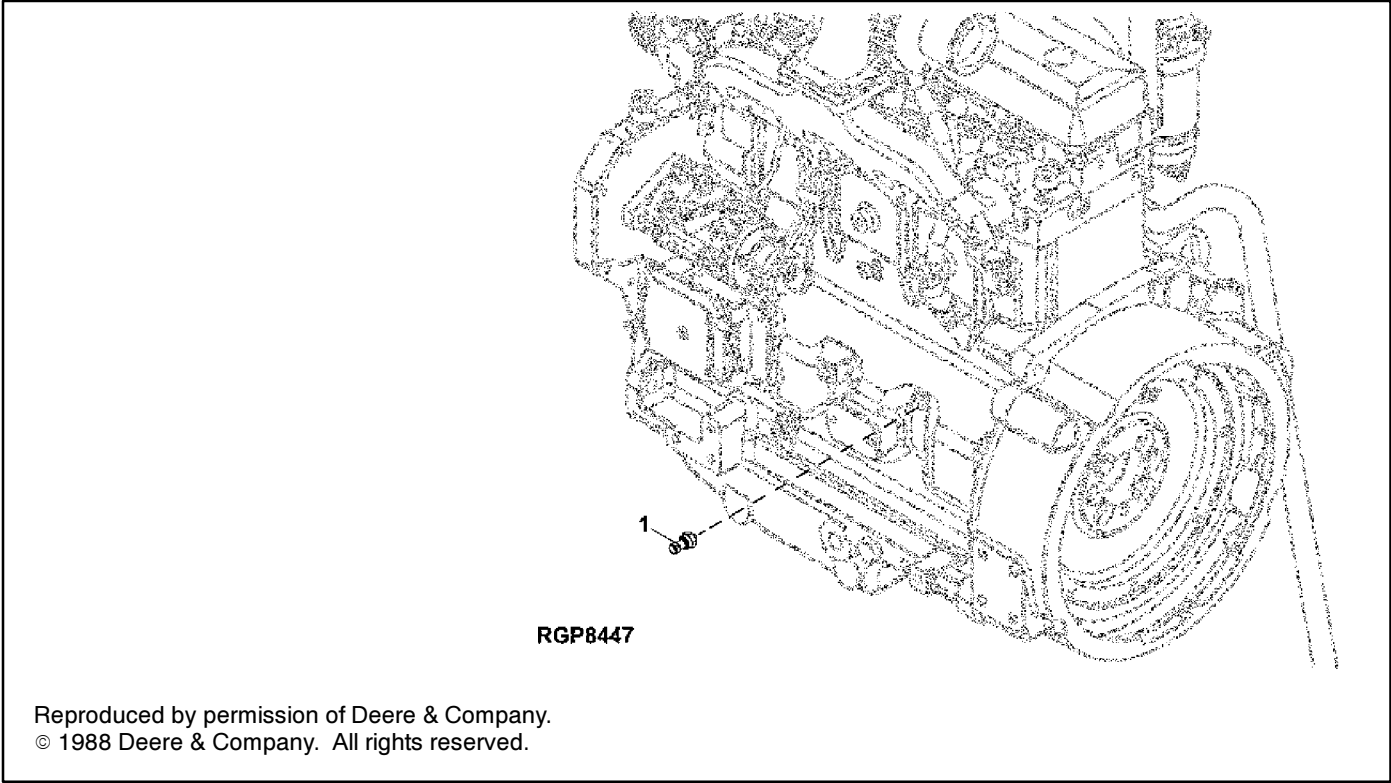
## Group 40: Overhaul Gasket Set



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                             | Quantity       |
|------|-------------|-----------------------------------------|----------------|
|      |             |                                         | Variation 9901 |
| 12   | 360587      | Gasket kit (includes items 1-11, 13-34) | 1              |

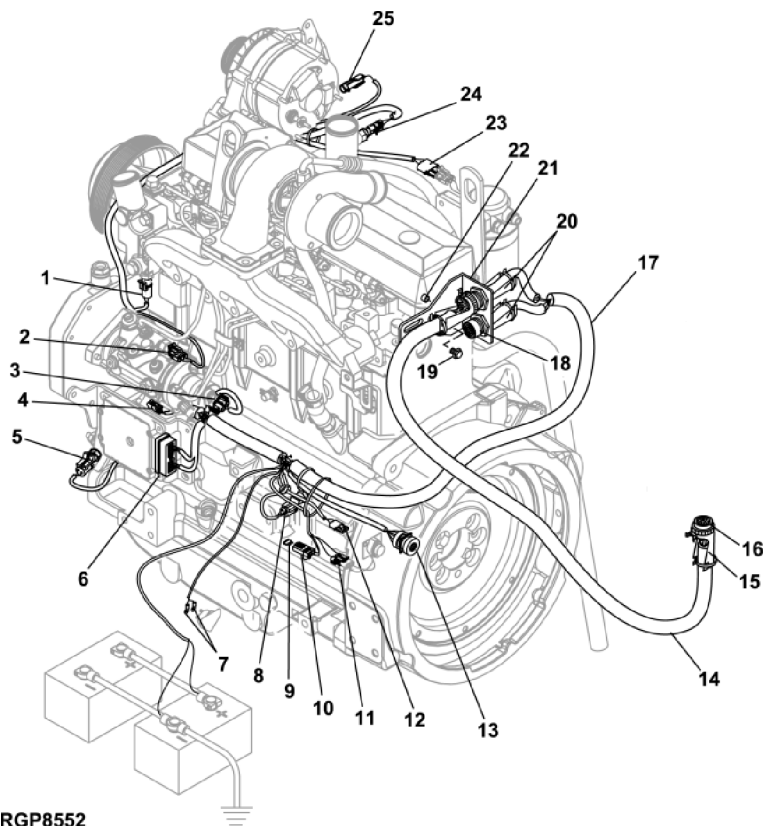
# Group 41: Engine Sensors



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved.

| Item | Part Number | Description                 | Quantity       |
|------|-------------|-----------------------------|----------------|
|      |             |                             | Variation 7635 |
| 1    | GM32919     | Sensor, engine oil pressure | 1              |

## Group 42: Wiring Harness



Reproduced by permission of Deere & Company.  
© 1988 Deere & Company. All rights reserved. RGP8552

| Item | Part Number | Description    | Quantity<br>Variation<br>8407 |
|------|-------------|----------------|-------------------------------|
| 1    | GM32768     | Connector      | 1                             |
| 2    | GM32768     | Connector      | 1                             |
| 3    | GM32771     | Connector      | 1                             |
| 4    | GM32773     | Connector      | 1                             |
| 5    | GM32768     | Connector      | 1                             |
| 6    | GM32767     | Connector      | 1                             |
| 7    | GM32772     | Connector      | 2                             |
| 8    | GM32774     | Connector      | 1                             |
| 9    | GM32766     | Fuse           | 1                             |
| 10   | GM32778     | Connector      | 1                             |
| 11   | GM32806     | Connector      | 1                             |
| 12   | GM32769     | Connector      | 1                             |
| 13   | GM32775     | Connector      | 1                             |
| 14   | GM32837     | Wiring harness | 1                             |
| 15   | GM32779     | Connector      | 1                             |
| 16   | GM32776     | Connector      | 2                             |
| 17   | GM32822     | Wiring harness | 1                             |
| 18   | GM32777     | Connector      | 1                             |
| 19   | GM32765     | Screw          | 1                             |
| 20   | GM32779     | Connector      | 2                             |
| 21   | GM32802     | Bracket        | 1                             |
| 22   | GM32847     | Bushing        | 1                             |
| 23   | GM32770     | Connector      | 1                             |
| 24   | GM32768     | Connector      | 1                             |
| 25   | GM32804     | Connector      | 1                             |

# Appendix A Common Hardware Identification

| Screw/Bolts/Studs                            |                                                                                     |
|----------------------------------------------|-------------------------------------------------------------------------------------|
| Head Styles                                  |                                                                                     |
| Hex Head or Machine Head                     |    |
| Hex Head or Machine Head with Washer         |    |
| Flat Head (FHM)                              |    |
| Round Head (RHM)                             |    |
| Pan Head                                     |    |
| Hex Socket Head Cap or Allen™ Head Cap       |    |
| Hex Socket Head or Allen™ Head Shoulder Bolt |    |
| Sheet Metal Screw                            |    |
| Stud                                         |    |
| Drive Styles                                 |                                                                                     |
| Hex                                          |    |
| Hex and Slotted                              |   |
| Phillips®                                    |  |
| Slotted                                      |  |
| Hex Socket                                   |  |

| Nuts                         |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
| Nut Styles                   |                                                                                     |
| Hex Head                     |    |
| Lock or Elastic              |    |
| Square                       |    |
| Cap or Acorn                 |    |
| Wing                         |    |
| Washers                      |                                                                                     |
| Washer Styles                |                                                                                     |
| Plain                        |    |
| Split Lock or Spring         |    |
| Spring or Wave               |    |
| External Tooth Lock          |    |
| Internal Tooth Lock          |    |
| Internal-External Tooth Lock |  |

| Hardness Grades                       |                                                                                                                                                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| American Standard                     |                                                                                                                                                                         |
| Grade 2                               |   |
| Grade 5                               |   |
| Grade 8                               |                                                                                      |
| Grade 8/9 (Hex Socket Head)           |                                                                                      |
| Metric                                |                                                                                                                                                                         |
| Number stamped on hardware; 5.8 shown |                                                                                      |

Allen™ head screw is a trademark of Holo-Krome Co.

Phillips® screw is a registered trademark of Phillips Screw Company.

## Sample Dimensions

### American Standard (Screws, Bolts, Studs, and Nuts)

1/4-20 x 1  
 — Length In Inches (Screws and Bolts)  
 — Threads Per Inch  
 — Major Thread Diameter In Fractional Inches Or Screw Number Size

### Metric (Screws, Bolts, Studs, and Nuts)

M8-1.25 x 20  
 — Length In Millimeters (Screws and Bolts)  
 — Distance Between Threads In Millimeters  
 — Major Thread Diameter In Millimeters

### Plain Washers

9/32 x 5/8 x 1/16  
 — Thickness  
 — External Dimension  
 — Internal Dimension

### Lock Washers

5/8  
 — Internal Dimension

# Appendix B Common Hardware List

The Common Hardware List lists part numbers and dimensions for common hardware items.

## American Standard

### Part No. Dimensions Hex Head Bolts (Grade 5)

|           |                |
|-----------|----------------|
| X-465-17  | 1/4-20 x .38   |
| X-465-6   | 1/4-20 x .50   |
| X-465-2   | 1/4-20 x .62   |
| X-465-16  | 1/4-20 x .75   |
| X-465-18  | 1/4-20 x .88   |
| X-465-7   | 1/4-20 x 1.00  |
| X-465-8   | 1/4-20 x 1.25  |
| X-465-9   | 1/4-20 x 1.50  |
| X-465-10  | 1/4-20 x 1.75  |
| X-465-11  | 1/4-20 x 2.00  |
| X-465-12  | 1/4-20 x 2.25  |
| X-465-14  | 1/4-20 x 2.75  |
| X-465-21  | 1/4-20 x 5.00  |
| X-465-25  | 1/4-28 x .38   |
| X-465-20  | 1/4-28 x 1.00  |
|           |                |
| X-125-33  | 5/16-18 x .50  |
| X-125-23  | 5/16-18 x .62  |
| X-125-3   | 5/16-18 x .75  |
| X-125-31  | 5/16-18 x .88  |
| X-125-5   | 5/16-18 x 1.00 |
| X-125-24  | 5/16-18 x 1.25 |
| X-125-34  | 5/16-18 x 1.50 |
| X-125-25  | 5/16-18 x 1.75 |
| X-125-26  | 5/16-18 x 2.00 |
| 230578    | 5/16-18 x 2.25 |
| X-125-29  | 5/16-18 x 2.50 |
| X-125-27  | 5/16-18 x 2.75 |
| X-125-28  | 5/16-18 x 3.00 |
| X-125-22  | 5/16-18 x 4.50 |
| X-125-32  | 5/16-18 x 5.00 |
| X-125-35  | 5/16-18 x 5.50 |
| X-125-36  | 5/16-18 x 6.00 |
| X-125-40  | 5/16-18 x 6.50 |
|           |                |
| X-125-43  | 5/16-24 x 1.75 |
| X-125-44  | 5/16-24 x 2.50 |
| X-125-30  | 5/16-24 x .75  |
| X-125-39  | 5/16-24 x 2.00 |
| X-125-38  | 5/16-24 x 2.75 |
|           |                |
| X-6238-2  | 3/8-16 x .62   |
| X-6238-10 | 3/8-16 x .75   |
| X-6238-3  | 3/8-16 x .88   |
| X-6238-11 | 3/8-16 x 1.00  |
| X-6238-4  | 3/8-16 x 1.25  |
| X-6238-5  | 3/8-16 x 1.50  |
| X-6238-1  | 3/8-16 x 1.75  |
| X-6238-6  | 3/8-16 x 2.00  |
| X-6238-17 | 3/8-16 x 2.25  |
| X-6238-7  | 3/8-16 x 2.50  |
| X-6238-8  | 3/8-16 x 2.75  |
| X-6238-9  | 3/8-16 x 3.00  |
| X-6238-19 | 3/8-16 x 3.25  |
| X-6238-12 | 3/8-16 x 3.50  |
| X-6238-20 | 3/8-16 x 3.75  |
| X-6238-13 | 3/8-16 x 4.50  |
| X-6238-18 | 3/8-16 x 5.50  |
| X-6238-25 | 3/8-16 x 6.50  |

### Part No. Dimensions Hex Head Bolts, cont.

|           |                |
|-----------|----------------|
| X-6238-14 | 3/8-24 x .75   |
| X-6238-16 | 3/8-24 x 1.25  |
| X-6238-21 | 3/8-24 x 4.00  |
| X-6238-22 | 3/8-24 x 4.50  |
|           |                |
| X-6024-5  | 7/16-14 x .75  |
| X-6024-2  | 7/16-14 x 1.00 |
| X-6024-8  | 7/16-14 x 1.25 |
| X-6024-3  | 7/16-14 x 1.50 |
| X-6024-4  | 7/16-14 x 2.00 |
| X-6024-11 | 7/16-14 x 2.75 |
| X-6024-12 | 7/16-14 x 6.50 |
|           |                |
| X-129-15  | 1/2-13 x .75   |
| X-129-17  | 1/2-13 x 1.00  |
| X-129-18  | 1/2-13 x 1.25  |
| X-129-19  | 1/2-13 x 1.50  |
| X-129-20  | 1/2-13 x 1.75  |
| X-129-21  | 1/2-13 x 2.00  |
| X-129-22  | 1/2-13 x 2.25  |
| X-129-23  | 1/2-13 x 2.50  |
| X-129-24  | 1/2-13 x 2.75  |
| X-129-25  | 1/2-13 x 3.00  |
| X-129-27  | 1/2-13 x 3.50  |
| X-129-29  | 1/2-13 x 4.00  |
| X-129-30  | 1/2-13 x 4.50  |
| X-463-9   | 1/2-13 x 5.50  |
| X-129-44  | 1/2-13 x 6.00  |
|           |                |
| X-129-51  | 1/2-20 x .75   |
| X-129-45  | 1/2-20 x 1.25  |
| X-129-52  | 1/2-20 x 1.50  |
|           |                |
| X-6021-3  | 5/8-11 x 1.00  |
| X-6021-4  | 5/8-11 x 1.25  |
| X-6021-2  | 5/8-11 x 1.50  |
| X-6021-1  | 5/8-11 x 1.75  |
| 273049    | 5/8-11 x 2.00  |
| X-6021-5  | 5/8-11 x 2.25  |
| X-6021-6  | 5/8-11 x 2.50  |
| X-6021-7  | 5/8-11 x 2.75  |
| X-6021-12 | 5/8-11 x 3.75  |
| X-6021-11 | 5/8-11 x 4.50  |
| X-6021-10 | 5/8-11 x 6.00  |
|           |                |
| X-6021-9  | 5/8-18 x 2.50  |
|           |                |
| X-6239-1  | 3/4-10 x 1.00  |
| X-6239-8  | 3/4-10 x 1.25  |
| X-6239-2  | 3/4-10 x 1.50  |
| X-6239-3  | 3/4-10 x 2.00  |
| X-6239-4  | 3/4-10 x 2.50  |
| X-6239-5  | 3/4-10 x 3.00  |
| X-6239-6  | 3/4-10 x 3.50  |
|           |                |
| X-792-1   | 1-8 x 2.25     |
| X-792-5   | 1-8 x 3.00     |
| X-792-8   | 1-8 x 5.00     |

### Part No. Dimensions Type

#### Hex Nuts

|           |         |           |
|-----------|---------|-----------|
| X-6009-1  | 1-8     | Standard  |
|           |         |           |
| X-6210-3  | 6-32    | Whiz      |
| X-6210-4  | 8-32    | Whiz      |
| X-6210-5  | 10-24   | Whiz      |
| X-6210-1  | 10-32   | Whiz      |
|           |         |           |
| X-6210-2  | 1/4-20  | Spiralock |
| X-6210-6  | 1/4-28  | Spiralock |
| X-6210-7  | 5/16-18 | Spiralock |
| X-6210-8  | 5/16-24 | Spiralock |
| X-6210-9  | 3/8-16  | Spiralock |
| X-6210-10 | 3/8-24  | Spiralock |
| X-6210-11 | 7/16-14 | Spiralock |
| X-6210-12 | 1/2-13  | Spiralock |
| X-6210-15 | 7/16-20 | Spiralock |
| X-6210-14 | 1/2-20  | Spiralock |
|           |         |           |
| X-85-3    | 5/8-11  | Standard  |
| X-88-12   | 3/4-10  | Standard  |
| X-89-2    | 1/2-20  | Standard  |

#### Washers

| Part No. | ID    | OD    | Thick. | Bolt/<br>Screw |
|----------|-------|-------|--------|----------------|
| X-25-46  | .125  | .250  | .022   | #4             |
| X-25-9   | .156  | .375  | .049   | #6             |
| X-25-48  | .188  | .438  | .049   | #8             |
| X-25-36  | .219  | .500  | .049   | #10            |
| X-25-40  | .281  | .625  | .065   | 1/4            |
| X-25-85  | .344  | .687  | .065   | 5/16           |
| X-25-37  | .406  | .812  | .065   | 3/8            |
| X-25-34  | .469  | .922  | .065   | 7/16           |
| X-25-26  | .531  | 1.062 | .095   | 1/2            |
| X-25-15  | .656  | 1.312 | .095   | 5/8            |
| X-25-29  | .812  | 1.469 | .134   | 3/4            |
| X-25-127 | 1.062 | 2.000 | .134   | 1              |

## Metric

Hex head bolts are hardness grade 8.8 unless noted.

### Part No. Dimensions Hex Head Bolts (Partial Thread)

|               |                |
|---------------|----------------|
| M931-05055-60 | M5-0.80 x 55   |
| M931-06040-60 | M6-1.00 x 40   |
| M931-06055-60 | M6-1.00 x 55   |
| M931-06060-60 | M6-1.00 x 60   |
| M931-06060-SS | M6-1.00 x 60   |
| M931-06070-60 | M6-1.00 x 70   |
| M931-06070-SS | M6-1.00 x 70   |
| M931-06075-60 | M6-1.00 x 75   |
| M931-06090-60 | M6-1.00 x 90   |
| M931-06145-60 | M6-1.00 x 145  |
| M931-06150-60 | M6-1.00 x 150  |
| M931-08035-60 | M8-1.25 x 35   |
| M931-08040-60 | M8-1.25 x 40   |
| M931-08045-60 | M8-1.25 x 45   |
| M931-08050-60 | M8-1.25 x 50   |
| M931-08055-60 | M8-1.25 x 55   |
| M931-08055-82 | M8-1.25 x 55*  |
| M931-08060-60 | M8-1.25 x 60   |
| M931-08070-60 | M8-1.25 x 70   |
| M931-08070-82 | M8-1.25 x 70*  |
| M931-08075-60 | M8-1.25 x 75   |
| M931-08080-60 | M8-1.25 x 80   |
| M931-08090-60 | M8-1.25 x 90   |
| M931-08095-60 | M8-1.25 x 95   |
| M931-08100-60 | M8-1.25 x 100  |
| M931-08110-60 | M8-1.25 x 110  |
| M931-08120-60 | M8-1.25 x 120  |
| M931-08130-60 | M8-1.25 x 130  |
| M931-08140-60 | M8-1.25 x 140  |
| M931-08150-60 | M8-1.25 x 150  |
| M931-08200-60 | M8-1.25 x 200  |
| M931-10040-82 | M10-1.25 x 40* |
| M931-10040-60 | M10-1.50 x 40  |
| M931-10045-60 | M10-1.50 x 45  |
| M931-10050-60 | M10-1.50 x 50  |
| M931-10050-82 | M10-1.25 x 50* |
| M931-10055-60 | M10-1.50 x 55  |
| M931-10060-60 | M10-1.50 x 60  |
| M931-10065-60 | M10-1.50 x 65  |
| M931-10070-60 | M10-1.50 x 70  |
| M931-10080-60 | M10-1.50 x 80  |
| M931-10080-82 | M10-1.25 x 80* |
| M931-10090-60 | M10-1.50 x 90  |
| M931-10090-82 | M10-1.50 x 90* |
| M931-10100-60 | M10-1.50 x 100 |
| M931-10110-60 | M10-1.50 x 110 |
| M931-10120-60 | M10-1.50 x 120 |
| M931-10130-60 | M10-1.50 x 130 |
| M931-10140-60 | M10-1.50 x 140 |
| M931-10180-60 | M10-1.50 x 180 |
| M931-10235-60 | M10-1.50 x 235 |
| M931-10260-60 | M10-1.50 x 260 |
| M960-10330-60 | M10-1.25 x 330 |
| M931-12045-60 | M12-1.75 x 45  |
| M960-12050-60 | M12-1.25 x 50  |
| M960-12050-82 | M12-1.25 x 50* |
| M931-12050-60 | M12-1.75 x 50  |
| M931-12050-82 | M12-1.75 x 50* |
| M931-12055-60 | M12-1.75 x 55  |
| M931-12060-60 | M12-1.75 x 60  |
| M931-12060-82 | M12-1.75 x 60* |
| M931-12065-60 | M12-1.75 x 65  |
| M931-12075-60 | M12-1.75 x 75  |
| M931-12080-60 | M12-1.75 x 80  |
| M931-12090-60 | M12-1.75 x 90  |
| M931-12100-60 | M12-1.75 x 100 |
| M931-12110-60 | M12-1.75 x 110 |

### Part No. Dimensions Hex Head Bolts (Partial Thread), continued

|               |                 |
|---------------|-----------------|
| M960-16090-60 | M16-1.50 x 90   |
| M931-16090-60 | M16-2.00 x 90   |
| M931-16100-60 | M16-2.00 x 100  |
| M931-16100-82 | M16-2.00 x 100* |
| M931-16120-60 | M16-2.00 x 120  |
| M931-16150-60 | M16-2.00 x 150  |
| M931-20065-60 | M20-2.50 x 65   |
| M931-20090-60 | M20-2.50 x 90   |
| M931-20100-60 | M20-2.50 x 100  |
| M931-20120-60 | M20-2.50 x 120  |
| M931-20140-60 | M20-2.50 x 140  |
| M931-20160-60 | M20-2.50 x 160  |
| M931-22090-60 | M22-2.50 x 90   |
| M931-22120-60 | M22-2.50 x 120  |
| M931-22160-60 | M22-2.50 x 160  |
| M931-24090-60 | M24-3.00 x 90   |
| M931-24120-60 | M24-3.00 x 120  |
| M931-24160-60 | M24-3.00 x 160  |
| M931-24200-60 | M24-3.00 x 200  |

### Hex Head Bolts (Full Thread)

|               |                |
|---------------|----------------|
| M933-04006-60 | M4-0.70 x 6    |
| M933-05030-60 | M5-0.80 x 30   |
| M933-05035-60 | M5-0.80 x 35   |
| M933-05050-60 | M5-0.80 x 50   |
| M933-06010-60 | M6-1.00 x 10   |
| M933-06012-60 | M6-1.00 x 12   |
| M933-06014-60 | M6-1.00 x 14   |
| M933-06016-60 | M6-1.00 x 16   |
| M933-06020-60 | M6-1.00 x 20   |
| M933-06025-60 | M6-1.00 x 25   |
| M933-06030-60 | M6-1.00 x 30   |
| M933-06040-60 | M6-1.00 x 40   |
| M933-06050-60 | M6-1.00 x 50   |
| M933-07025-60 | M7-1.00 x 25   |
| M933-08010-60 | M8-1.25 x 10   |
| M933-08012-60 | M8-1.25 x 12   |
| M933-08016-60 | M8-1.25 x 16   |
| M933-08020-60 | M8-1.25 x 20   |
| M933-08025-60 | M8-1.25 x 25   |
| M933-08030-60 | M8-1.25 x 30   |
| M933-08030-82 | M8-1.25 x 30*  |
| M933-10012-60 | M10-1.50 x 12  |
| M961-10020-60 | M10-1.25 x 20  |
| M933-10020-60 | M10-1.50 x 20  |
| M933-10025-60 | M10-1.50 x 25  |
| M961-10025-60 | M10-1.25 x 25  |
| M933-10025-82 | M10-1.50 x 25* |
| M961-10030-60 | M10-1.25 x 30  |
| M933-10030-60 | M10-1.50 x 30  |
| M933-10030-82 | M10-1.50 x 30* |
| M961-10035-60 | M10-1.25 x 35  |
| M933-10035-60 | M10-1.50 x 35  |
| M933-10035-82 | M10-1.50 x 35* |
| M961-10040-60 | M10-1.25 x 40  |

### Part No. Dimensions Hex Head Bolts (Full Thread), continued

|                |                |
|----------------|----------------|
| M933-12016-60  | M12-1.75 x 16  |
| M933-12020-60  | M12-1.75 x 20  |
| M961-12020-60F | M12-1.50 x 20  |
| M933-12025-60  | M12-1.75 x 25  |
| M933-12025-82  | M12-1.75 x 25* |
| M961-12030-60  | M12-1.25 x 30  |
| M933-12030-82  | M12-1.75 x 30* |
| M961-12030-82F | M12-1.50 x 30* |
| M933-12030-60  | M12-1.75 x 30  |
| M933-12035-60  | M12-1.75 x 35  |
| M961-12040-82  | M12-1.25 x 40* |
| M933-12040-60  | M12-1.75 x 40  |
| M933-12040-82  | M12-1.75 x 40* |
| M961-14025-60  | M14-1.50 x 25  |
| M933-14025-60  | M14-2.00 x 25  |
| M961-14050-82  | M14-1.50 x 50* |
| M961-16025-60  | M16-1.50 x 25  |
| M933-16025-60  | M16-2.00 x 25  |
| M961-16030-82  | M16-1.50 x 30* |
| M933-16030-82  | M16-2.00 x 30* |
| M933-16035-60  | M16-2.00 x 35  |
| M961-16040-60  | M16-1.50 x 40  |
| M933-16040-60  | M16-2.00 x 40  |
| M961-16045-82  | M16-1.50 x 45* |
| M933-16045-82  | M16-2.00 x 45* |
| M933-16050-60  | M16-2.00 x 50  |
| M933-16050-82  | M16-2.00 x 50* |
| M933-16060-60  | M16-2.00 x 60  |
| M933-16070-60  | M16-2.00 x 70  |
| M933-18035-60  | M18-2.50 x 35  |
| M933-18050-60  | M18-2.50 x 50  |
| M933-18060-60  | M18-2.50 x 60  |
| M933-20050-60  | M20-2.50 x 50  |
| M933-20055-60  | M20-2.50 x 55  |
| M933-24060-60  | M24-3.00 x 60  |
| M933-24065-60  | M24-3.00 x 65  |
| M933-24070-60  | M24-3.00 x 70  |

### Pan Head Machine Screws

|                 |               |
|-----------------|---------------|
| M7985A-03010-20 | M3-0.50 x 10  |
| M7985A-03012-20 | M3-0.50 x 12  |
| M7985A-04010-20 | M4-0.70 x 10  |
| M7985A-04016-20 | M4-0.70 x 16  |
| M7985A-04020-20 | M4-0.70 x 20  |
| M7985A-04050-20 | M4-0.70 x 50  |
| M7985A-04100-20 | M4-0.70 x 100 |
| M7985A-05010-20 | M5-0.80 x 10  |
| M7985A-05012-20 | M5-0.80 x 12  |
| M7985A-05016-20 | M5-0.80 x 16  |
| M7985A-05020-20 | M5-0.80 x 20  |
| M7985A-05025-20 | M5-0.80 x 25  |
| M7985A-05030-20 | M5-0.80 x 30  |
| M7985A-05080-20 | M5-0.80 x 80  |
| M7985A-05100-20 | M5-0.80 x 100 |
| M7985A-06100-20 | M6-1.00 x 100 |

### Flat Head Machine Screws

|                |              |
|----------------|--------------|
| M965A-04012-SS | M4-0.70 x 12 |
| M965A-05012-SS | M5-0.80 x 12 |
| M965A-05016-20 | M5-0.80 x 16 |
| M965A-06012-20 | M6-1.00 x 12 |

\* This metric hex bolt's hardness is grade 10.9.

## Metric, continued

| Part No.        | Dimensions | Type         |
|-----------------|------------|--------------|
| <b>Hex Nuts</b> |            |              |
| M934-03-50      | M3-0.50    | Standard     |
| M934-04-50      | M4-0.70    | Standard     |
| M934-04-B       | M4-0.70    | Brass        |
| M934-05-50      | M5-0.80    | Standard     |
| M934-06-60      | M6-1.00    | Standard     |
| M934-06-64      | M6-1.00    | Std. (green) |
| M6923-06-80     | M6-1.00    | Spiralock    |
| M982-06-80      | M6-1.00    | Elastic Stop |
| M934-08-60      | M8-1.25    | Standard     |
| M6923-08-80     | M8-1.25    | Spiralock    |
| M982-08-80      | M8-1.25    | Elastic Stop |
| M934-10-60      | M10-1.50   | Standard     |
| M934-10-60F     | M10-1.25   | Standard     |
| M6923-10-80     | M10-1.50   | Spiralock    |
| M6923-10-62     | M10-1.50   | Spiralock†   |
| M982-10-80      | M10-1.50   | Elastic Stop |
| M934-12-60      | M12-1.75   | Standard     |
| M934-12-60F     | M12-1.25   | Standard     |
| M6923-12-80     | M12-1.75   | Spiralock    |
| M982-12-80      | M12-1.75   | Elastic Stop |
| M982-14-60      | M14-2.00   | Elastic Stop |
| M6923-16-80     | M16-2.00   | Spiralock    |
| M982-16-80      | M16-2.00   | Elastic Stop |
| M934-18-80      | M18-2.5    | Standard     |
| M982-18-60      | M18-2.50   | Elastic Stop |
| M934-20-80      | M20-2.50   | Standard     |
| M982-20-80      | M20-2.50   | Elastic Stop |
| M934-22-60      | M22-2.50   | Standard     |
| M934-24-80      | M24-3.00   | Standard     |
| M982-24-60      | M24-3.00   | Elastic Stop |
| M934-30-80      | M30-3.50   | Standard     |

## Washers

| Part No.    | ID   | OD   | Thick. | Bolt/<br>Screw |
|-------------|------|------|--------|----------------|
| M125A-03-80 | 3.2  | 7.0  | 0.5    | M3             |
| M125A-04-80 | 4.3  | 9.0  | 0.8    | M4             |
| M125A-05-80 | 5.3  | 10.0 | 1.0    | M5             |
| M125A-06-80 | 6.4  | 12.0 | 1.6    | M6             |
| M125A-08-80 | 8.4  | 16.0 | 1.6    | M8             |
| M125A-10-80 | 10.5 | 20.0 | 2.0    | M10            |
| M125A-12-80 | 13.0 | 24.0 | 2.5    | M12            |
| M125A-14-80 | 15.0 | 28.0 | 2.5    | M14            |
| M125A-16-80 | 17.0 | 30.0 | 3.0    | M16            |
| M125A-18-80 | 19.0 | 34.0 | 3.0    | M18            |
| M125A-20-80 | 21.0 | 37.0 | 3.0    | M20            |
| M125A-24-80 | 25.0 | 44.0 | 4.0    | M24            |

† This metric hex nut's hardness is grade 8.







