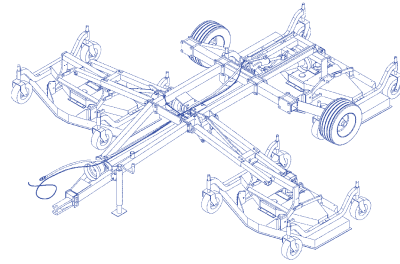


Product: New Holland 410GM/420GM/430GM Mower Service Repair Manual  
Full Download: <https://www.aresairmanual.com/downloads/new-holland-410gm-420gm-430gm-mower-service-repair-manual/>



# NEW HOLLAND

## 410GM 420GM 430GM

# REPAIR MANUAL



## SERVICE

Sample of manual. Download All 120 pages at:

<https://www.aresairmanual.com/downloads/new-holland-410gm-420gm-430gm-mower-service-repair-manual/>  
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1st Printing

# **410GM, 420GM, 430GM REPAIR MANUAL CONTENTS**

**SECTION 35 - HYDRAULIC SYSTEM**

**SECTION 55 - ELECTRICAL**

**SECTION 58 - MOWER**

**The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books.**

**The sections listed above are the sections utilized for the 410GM, 420GM, 430GM Flex Wing Finish Mower.**

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# COMPLETE CONTENTS

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## SECTION 35 - HYDRAULIC SYSTEM

### Chapter 1 - Hydraulic System

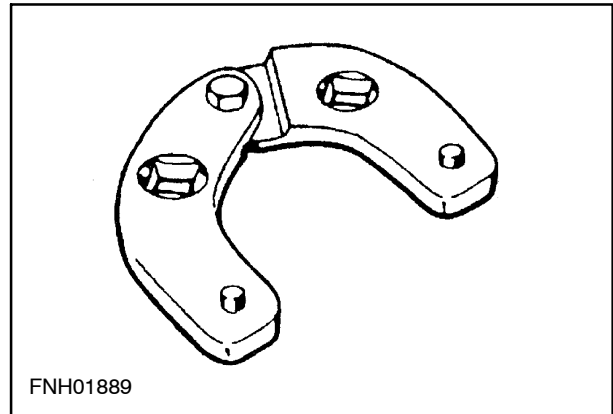
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**SPECIAL TOOLS**

Spanner Wrench #FNH01889



1

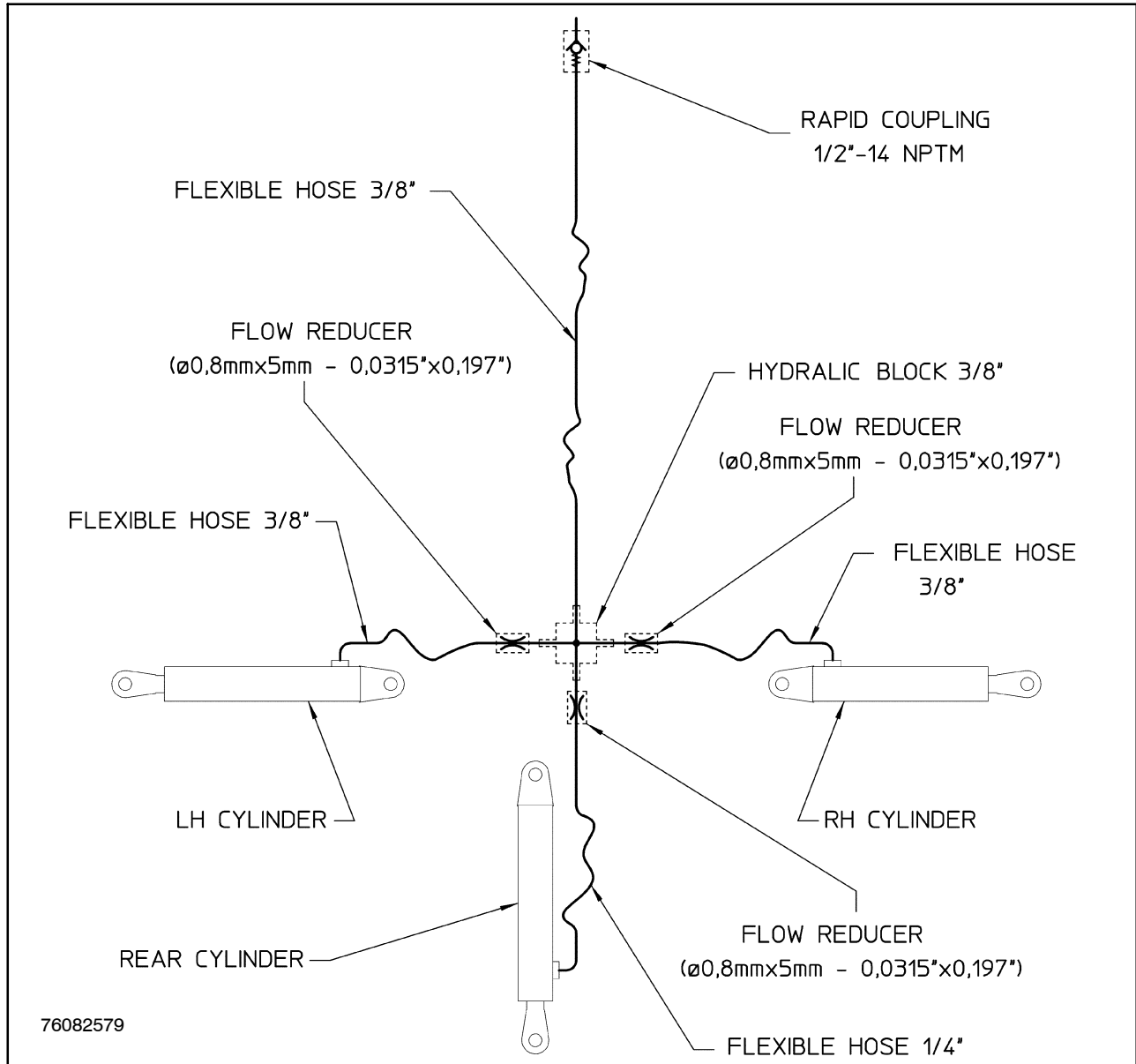
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2

## Hose Dimensions

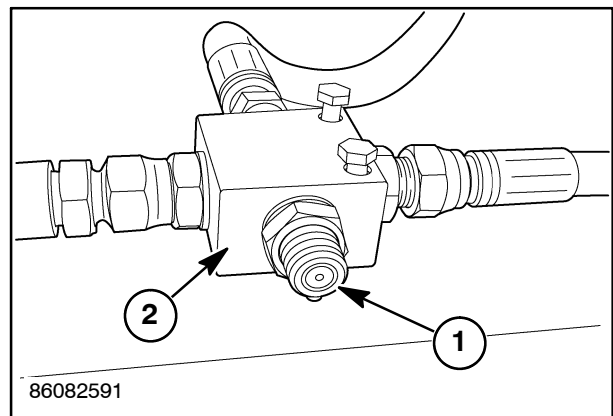
MODEL	SIZE	LENGTH	PART No.
410GM, 420GM	3/8 in hose (1/2 in Male, 3/8 in Female)	2900 mm (114 in)	SIT 620862
430GM	3/8 in hose (1/2 in Male, 3/8 in Female)	3000 mm (118 in)	SIT 620863
410GM, 420GM	1/4 in hose (3/8 in Eyelet, 3/8 in Female)	1650 mm (65 In)	SIT 610967
430GM	1/4 in hose (3/8 in Eyelet, 3/8 in Female)	1820 mm (71.5 in)	SIT 620865
410GM, 420GM, and 430GM	3/8 in hose, (3/8 in Eyelet, 3/8 in Female)	650 mm (25.5 in)	SIT 610968

HYDRAULIC SYSTEM COMPONENTS



3

**NOTE:** The Flow Reducers, 1, are screwed into the Hydraulic Block, 2.



4

## REAR HYDRAULIC CYLINDER

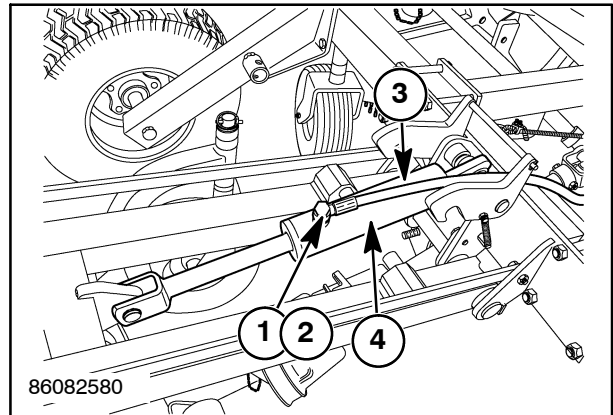
### REAR HYDRAULIC CYLINDER REMOVAL (410GM, 420GM AND 430GM)

#### Preparation

1. Before removing the hydraulic cylinders from the Flex Wing mower, make sure the Flex Wing mower is parked on level ground.
2. Lower all the mower decks to their lowered position. This will relieve the pressure in the cylinders and allow access to the cylinders.

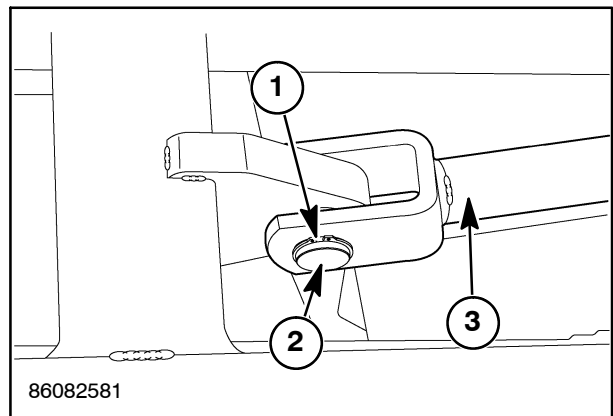
#### Removal

3. Remove the 3/8 in banjo bolt, 1, and two 3/8 in copper washers, 2, which attach the hydraulic hose, 3, to the cylinder, 4. Then remove the 1/4 in hydraulic hose from the cylinder.



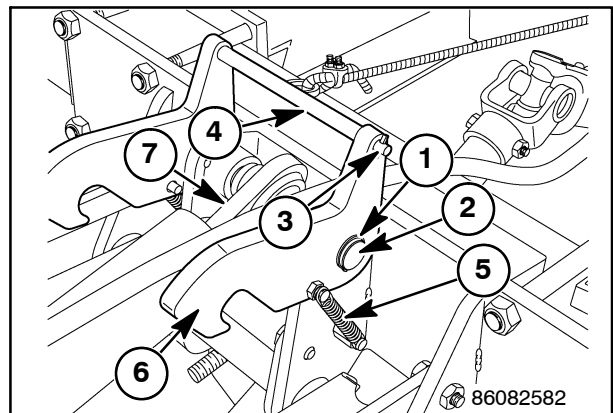
5

4. Remove the external E25 snap ring, 1, from the pin, 2.
5. Remove the pin, 2, from the rod, 3.



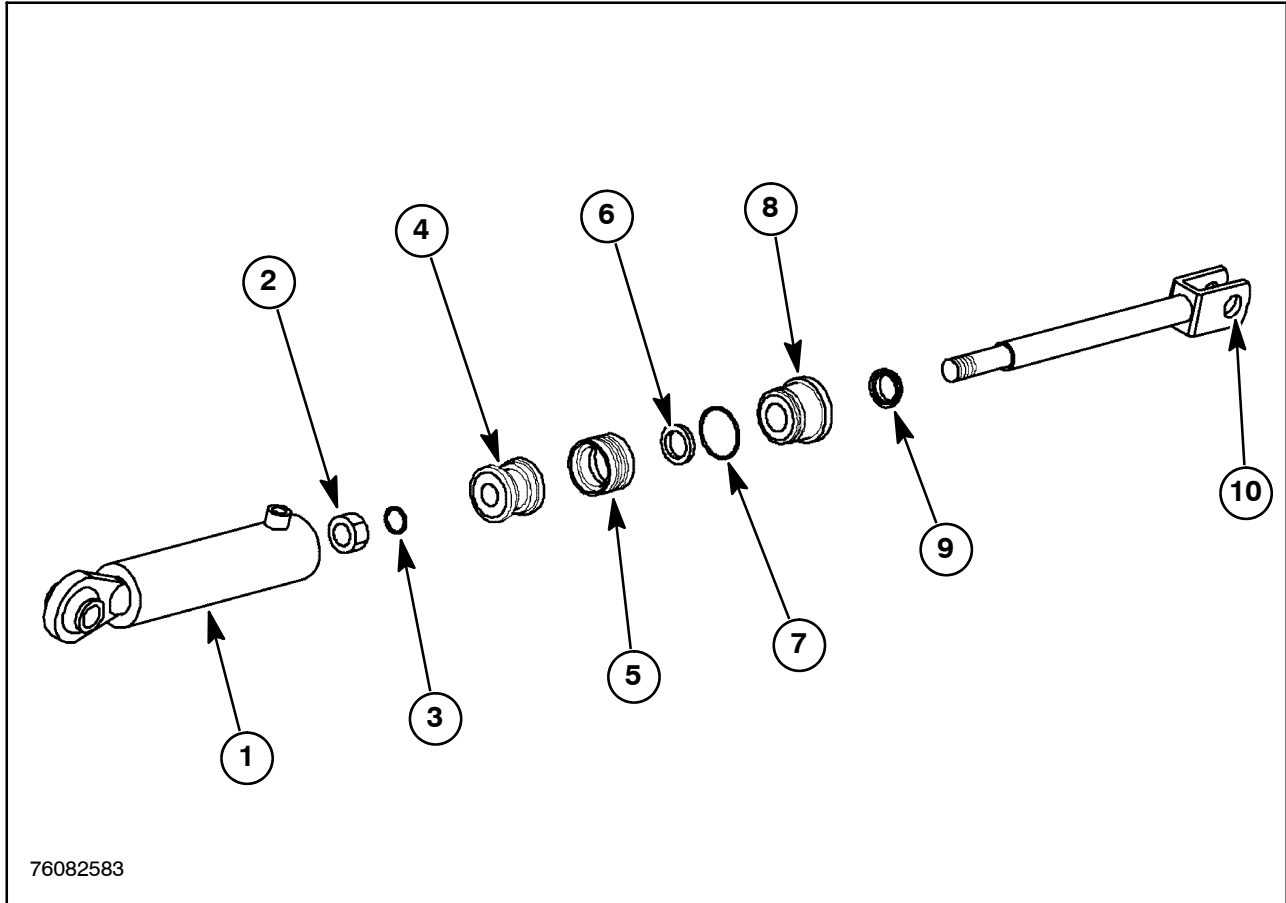
6

6. Remove the external E25 snap ring, 1, from the pin, 2.
7. Remove the spring pin, 3, from the support, 4. And then remove the springs, 5, from both of the hooks, 6.
8. Remove the hook, 6, from the pin, 2.
9. Remove the pin, 2, from the cylinder, 7, by using a hammer and punch.
10. The cylinder, 7, can now be removed from the rear frame.



7

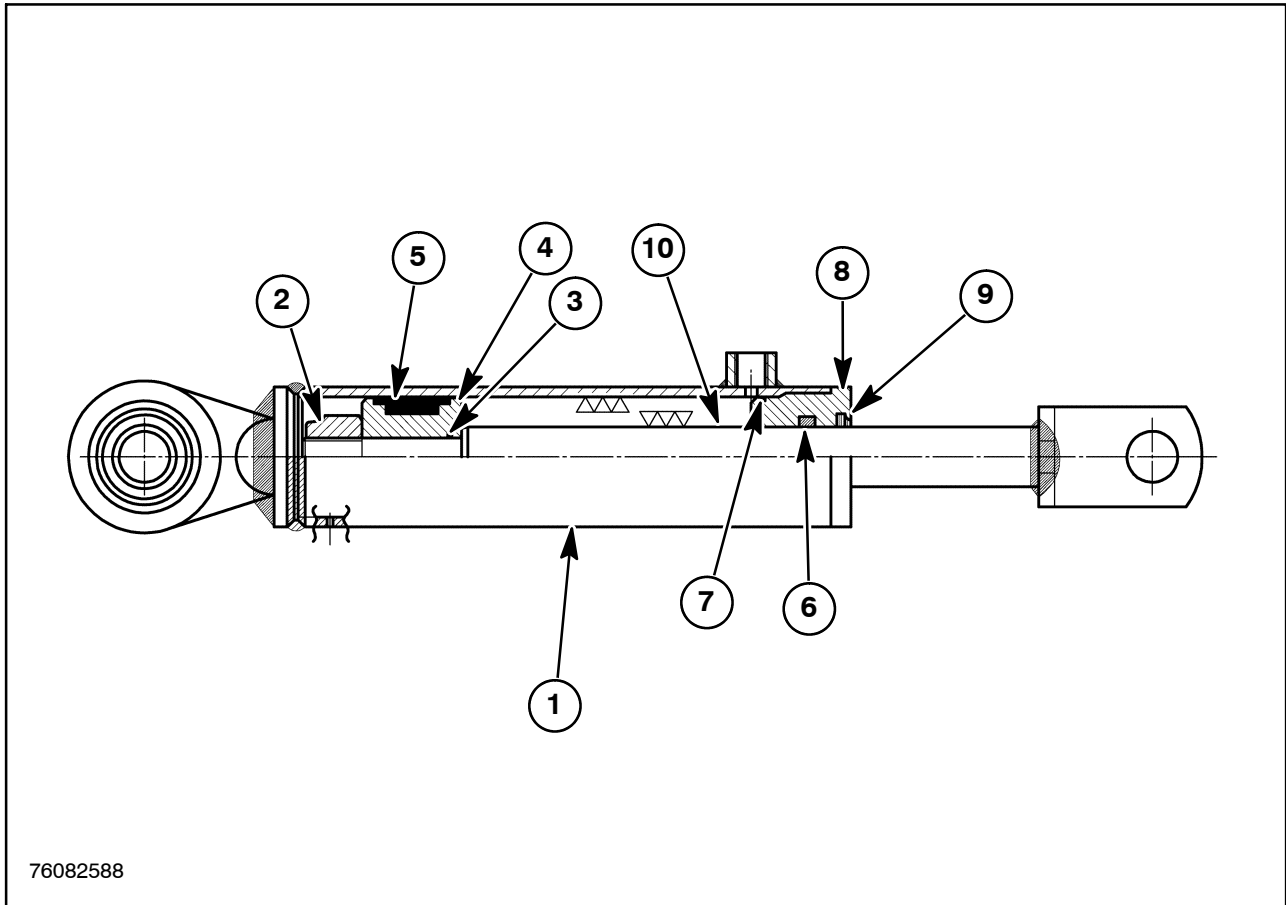
REAR CYLINDER COMPONENTS (APART)



8

- |                   |                   |
|-------------------|-------------------|
| 1. Cylinder       | 6. Seal, Inner    |
| 2. Nut, M20 x 1.5 | 7. O-ring         |
| 3. O-ring         | 8. Head, Cylinder |
| 4. Piston         | 9. Seal, Wiper    |
| 5. Seal, Piston   | 10. Rod           |

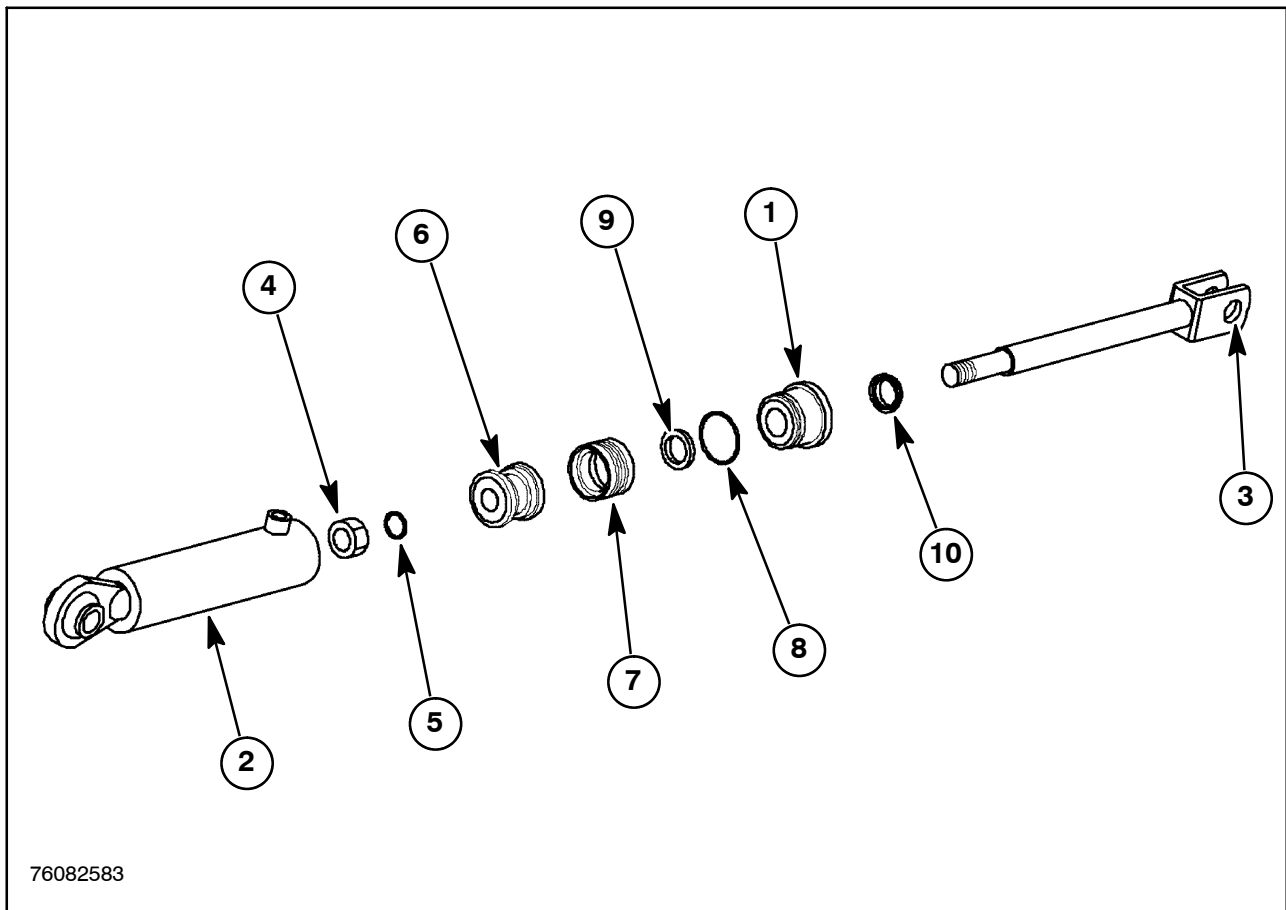
REAR CYLINDER COMPONENTS (TOGETHER)



9

- |                   |                   |
|-------------------|-------------------|
| 1. Cylinder       | 6. Seal, Inner    |
| 2. Nut, M20 x 1.5 | 7. O-ring         |
| 3. O-ring         | 8. Head, Cylinder |
| 4. Piston         | 9. Seal, Wiper    |
| 5. Seal, Piston   | 10. Rod           |





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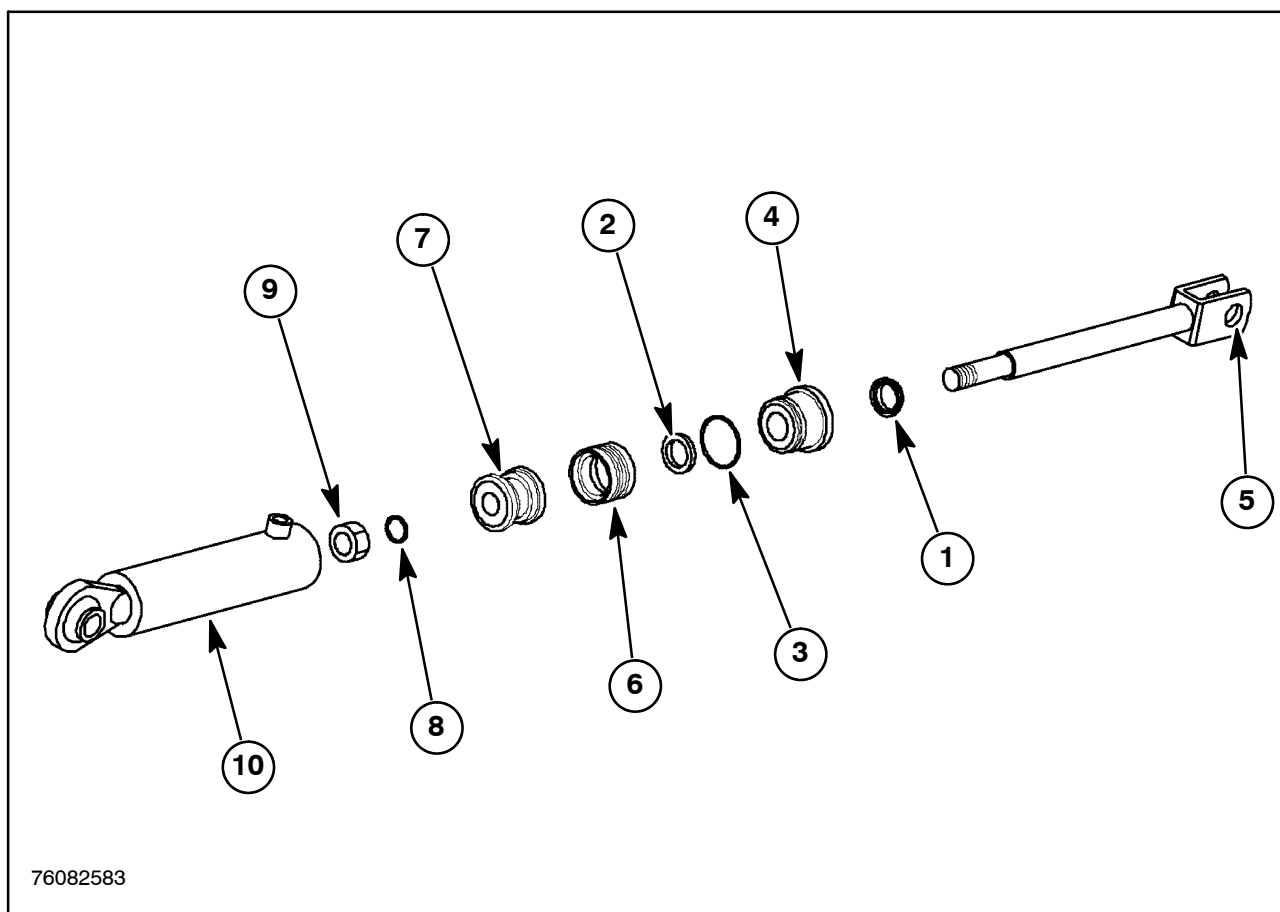
10

### Disassembly

1. Remove the cylinder head, 1, off of the cylinder, 2, using the adjustable spanner wrench. **Special Tool # FNH01889**

**NOTE:** Drain all the hydraulic fluid out of the cylinder before taking it apart.

2. Place the end of the cylinder in a vice, and then carefully pull the rod, 3, out of the cylinder, 2.
3. Remove the M20 x 1.5 nut, 4, from the top of the rod, 3.
4. Remove the O-ring, 5, and piston, 6, from the rod, 3.
5. Remove the piston seal, 7, from the piston, 6.
6. Remove the cylinder head, 1, from the rod, 3.
7. Remove the O-ring, 8, inner seal, 9, and wiper seal, 10, from the cylinder head, 3.



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### Inspection

1. Clean and inspect the cylinder, rod and components for any wear or damage. Replace as necessary.
2. Replace all the seals during assembly.

### Assembly

1. Install a new wiper seal, 1, new inner seal, 2, and a new O-ring, 3, to the cylinder head, 4.

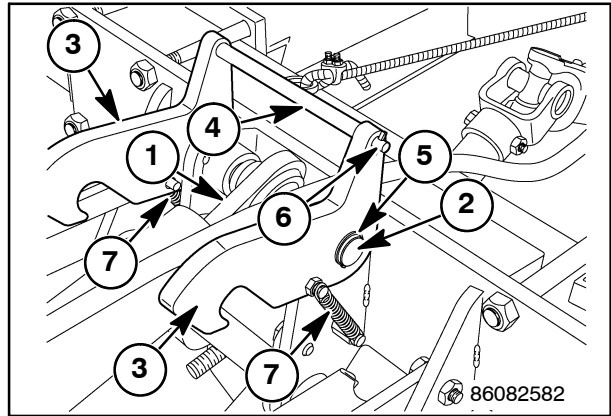
**NOTE:** Lube all seals and O-rings with hydraulic oil before installing them.

2. Install the cylinder head, 4, onto the rod, 5.
3. Install a new piston seal, 6, onto the piston, 7.

4. Slide the piston, 7, onto the rod, 5.
5. Install a new O-ring, 8, onto the rod, 5.
6. Fasten the M20 x 15 nut, 9, to the top of the rod, 5.
7. Place the lower end of the rod, 5, in a vice. And then torque the M20 x 1.5 nut, 9, to 400 N·m (295 ft-lbs).
8. Place the end of the cylinder, 10, in a vice, and then carefully slide the rod, 5, down into the cylinder.
9. Fasten the cylinder head, 4, to the cylinder, 10, using the adjustable spanner wrench. **Special Tool # FNH01889**
10. Torque the cylinder head to 170 N·m (125 ft-lbs).

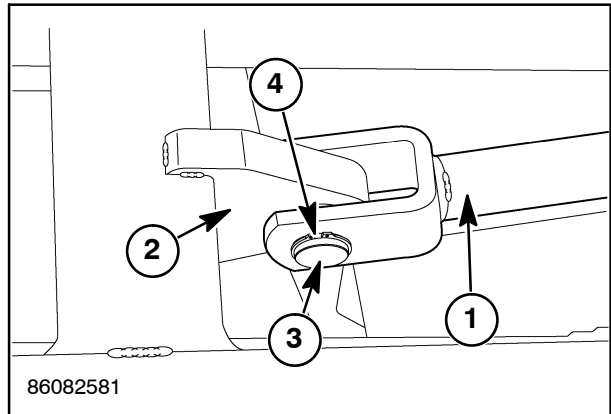
### Installation

1. Install the cylinder, 1, back onto the rear frame.
2. Slide the pin, 2, through the top of the cylinder, 1.
3. Slide the hook, 3, onto the pin, 2, and support, 4.
4. Secure the other hook, 3, to the pin, 2, with an external E25 snap ring, 5. Then reinstall the spring pin, 6, to support, 4.
5. Reattach the springs, 7, to the hooks, 3.



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6. Slide the rod, 1, down out of the cylinder until it lines up with the mount on the rear of the frame, 2.
7. Secure the rod, 1, to the mount, 2, by sliding the pin, 3, through the rod, 1.
8. Secure the pin, 3, to the rod, 1, with an external E25 snap ring, 4.

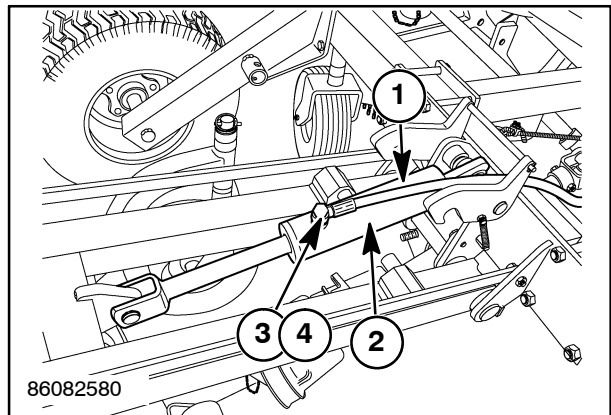


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9. Reinstall the 1/4 in hydraulic hose, 1, to the cylinder, 2. Secure the hose to the cylinder using the 3/8 in banjo bolt, 3, and two 3/8 in copper washers, 4.

**NOTE:** Use new copper washers when securing the hose to the cylinder.

10. Check the hydraulic oil level in the tractor and add oil as necessary.
11. With the Flex Wing mower connected to the tractor. Raise and lower the Flex Wing mower decks several times until all the air is bled out of the rear cylinder.
12. Once all the air is bled out from the rear cylinder. The Flex Wing mower decks should rise up and down smoothly.



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## LATERAL HYDRAULIC CYLINDER

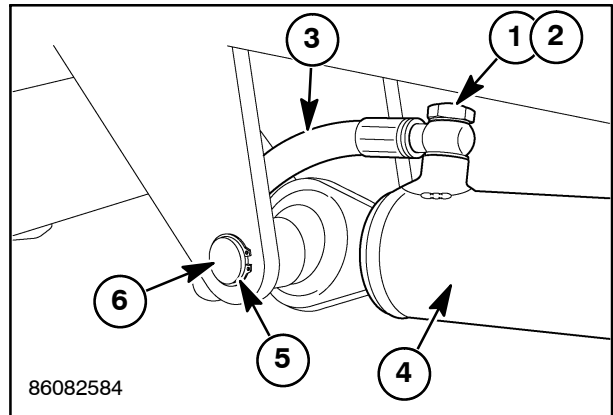
### LATERAL HYDRAULIC CYLINDER REMOVAL (410GM AND 420GM)

#### Preparation

1. Before removing the hydraulic cylinders from the Flex Wing mower, make sure the Flex Wing mower is parked on level ground.
2. Lower all the mower decks to their lowered position. This will relieve the pressure in the cylinders and allow access to the cylinders.

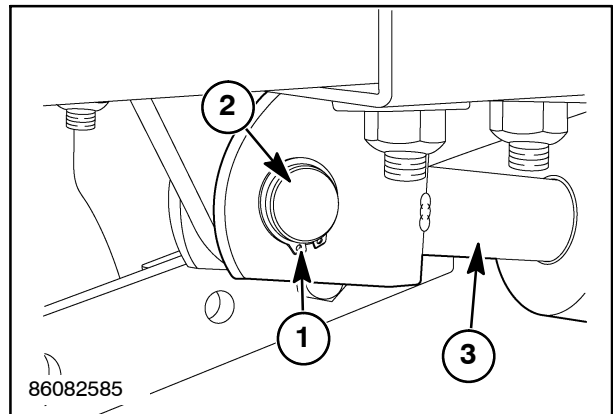
#### Removal

1. Remove the 3/8 in banjo bolt, 1, and two 3/8 in copper washers, 2, from the hydraulic hose, 3. Then remove the 3/8 in hydraulic hose, 3, from the cylinder, 4.
2. Remove the external E25 snap ring, 5, from the pin, 6.
3. Remove the pin, 6, from the cylinder, 4, by using a hammer and a punch.



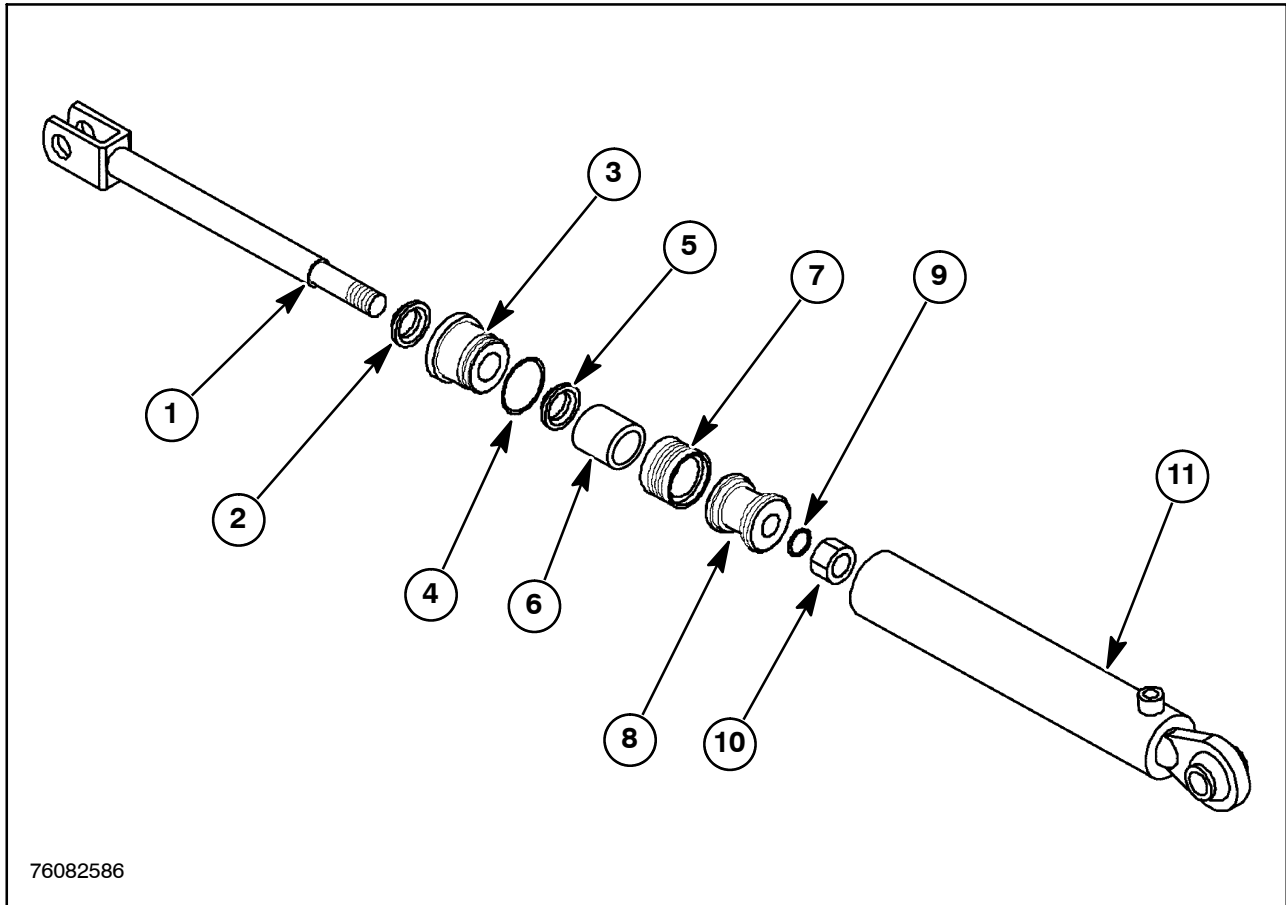
15

4. Remove the external E25 snap ring, 1, from the pin, 2.
5. Remove the pin, 2, from the rod, 3, by using a hammer and punch.
6. The cylinder can now be removed from the lateral arm.



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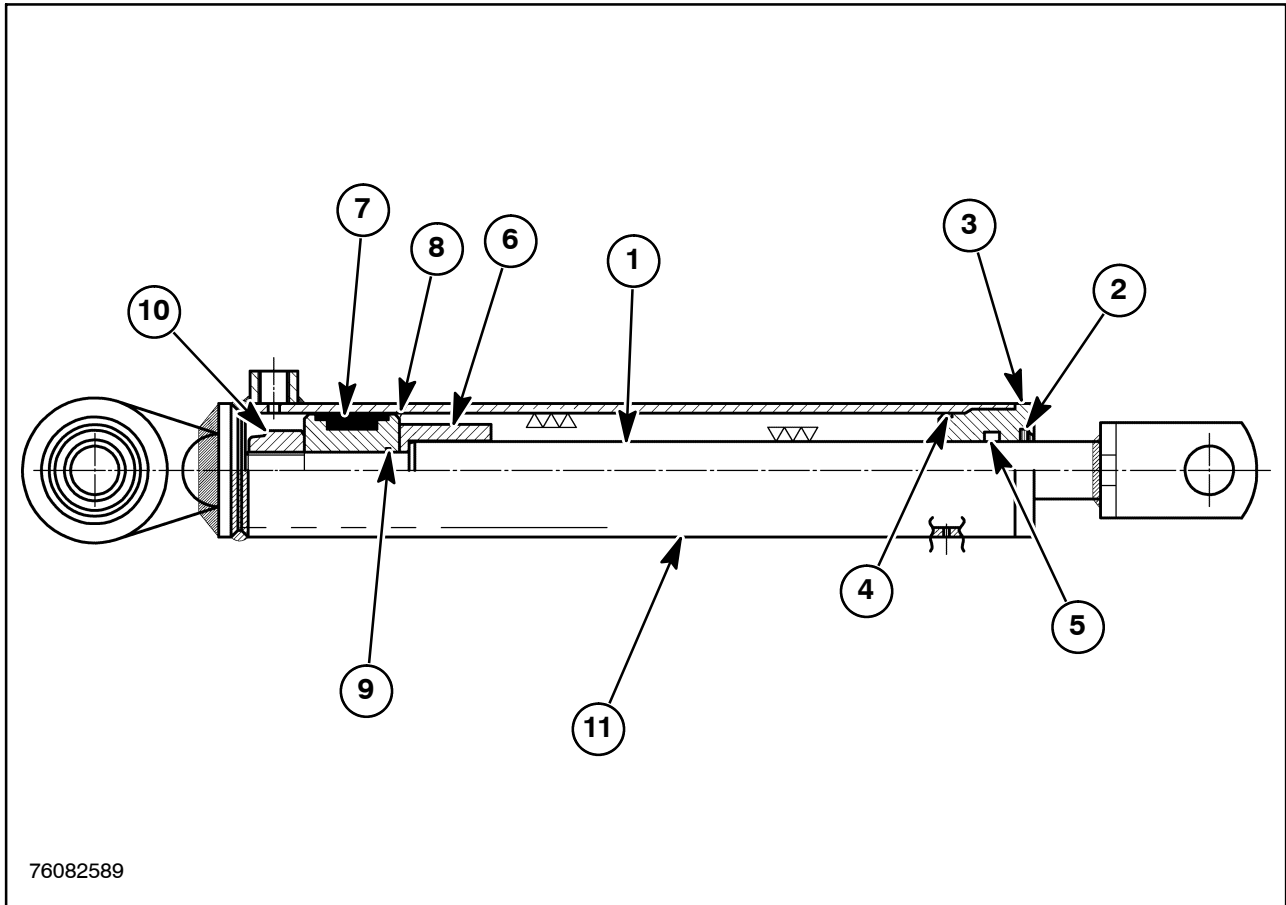
**LATERAL CYLINDER COMPONENTS (APART) (410GM AND 420GM)**



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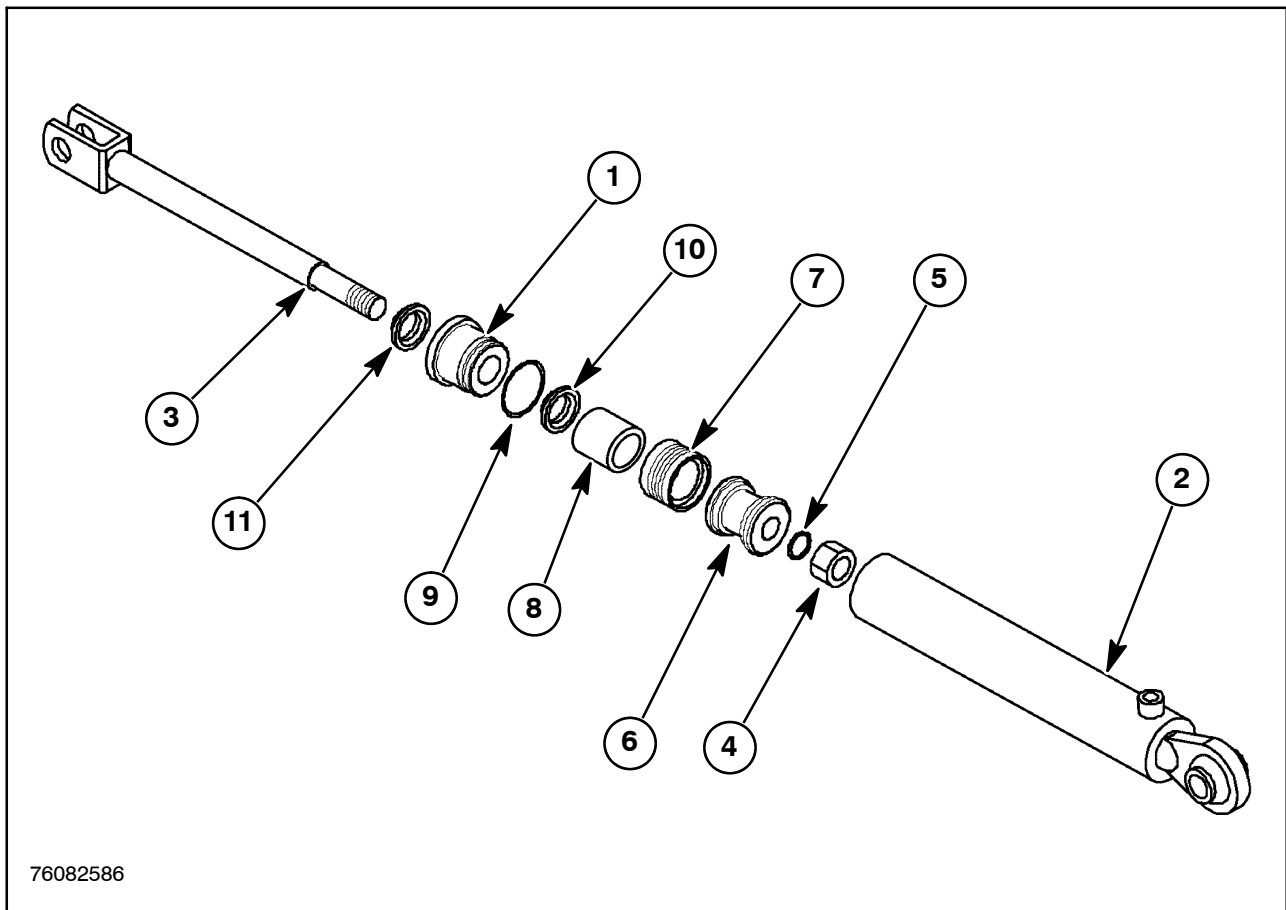
- |                   |                    |
|-------------------|--------------------|
| 1. Rod            | 7. Seal, Piston    |
| 2. Seal, Wiper    | 8. Piston          |
| 3. Head, Cylinder | 9. O-ring          |
| 4. O-ring         | 10. Nut, M20 x 1.5 |
| 5. Seal, Inner    | 11. Cylinder       |
| 6. Bushing        |                    |

**LATERAL CYLINDER COMPONENTS (TOGETHER) (410GM AND 420GM)**



18

- |                   |                    |
|-------------------|--------------------|
| 1. Rod            | 7. Seal, Piston    |
| 2. Seal, Wiper    | 8. Piston          |
| 3. Head, Cylinder | 9. O-ring          |
| 4. O-ring         | 10. Nut, M20 x 1.5 |
| 5. Seal, Inner    | 11. Cylinder       |
| 6. Bushing        |                    |



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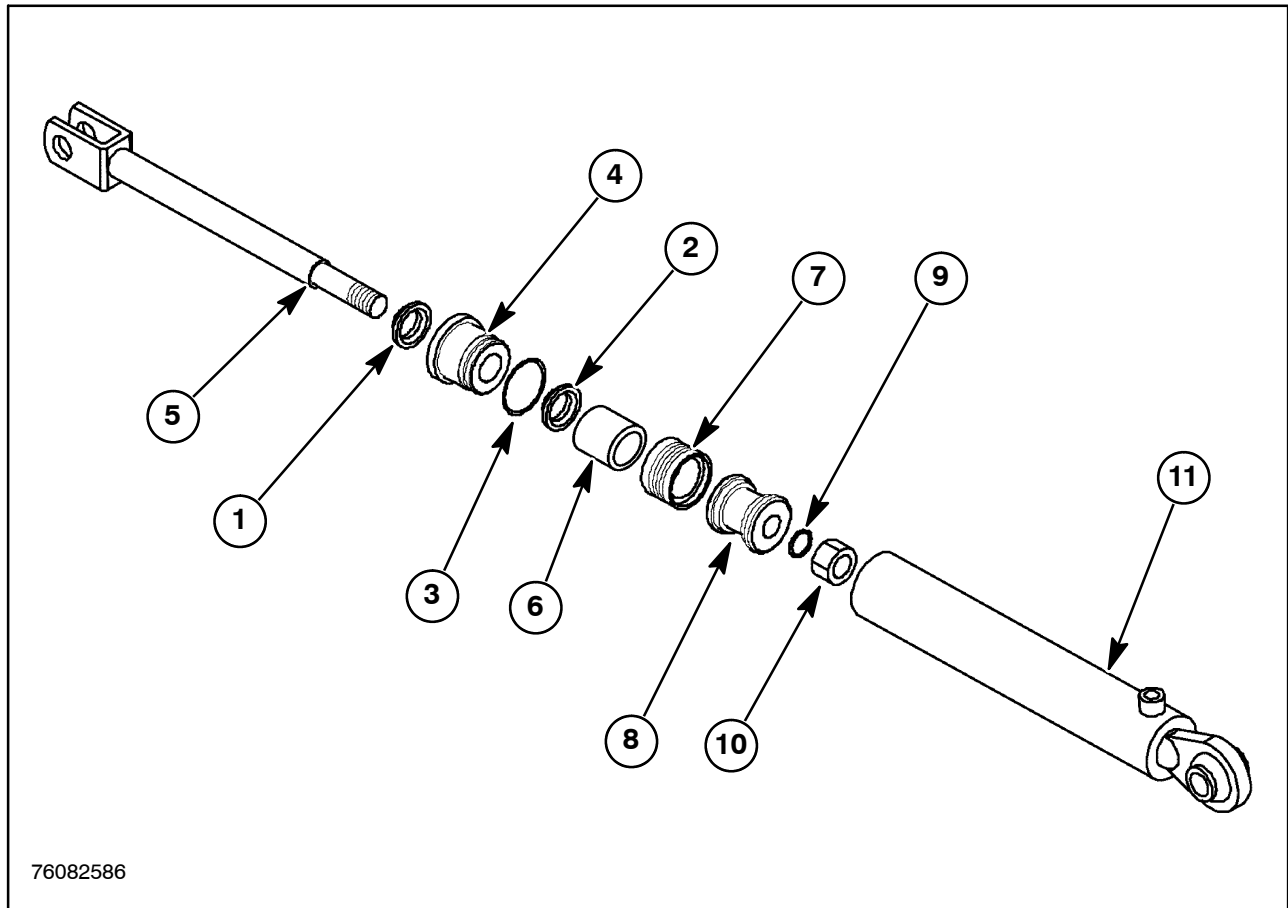
### Disassembly

1. Remove the cylinder head, 1, off of the cylinder, 2, using the adjustable spanner wrench. **Special Tool # FNH01889**

**NOTE:** Drain all the hydraulic fluid out of the cylinder before taking it apart.

2. Place the end of the cylinder in a vice, and then carefully pull the rod, 3, out of the cylinder.
3. Remove the M20 x 1.5 nut, 4, from the top of the rod, 3.

4. Remove the O-ring, 5, and piston, 6, from the rod, 3.
5. Remove the piston seal, 7, from the piston, 6.
6. Remove the bushing, 8, from the rod, 3.
7. Remove the cylinder head, 1, from the rod, 3.
8. Remove the O-ring, 9, inner seal, 10, and wiper seal, 11, from the cylinder head, 3.



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### Inspection

1. Clean and inspect the cylinder, rod and components for any wear or damage. Replace as necessary.
2. Replace all the seals during assembly.

### Assembly

1. Install a new wiper seal, 1, new inner seal, 2, and new O-ring, 3, to the cylinder head, 4.

**NOTE:** Lube all seals and O-rings with hydraulic oil before installing them.

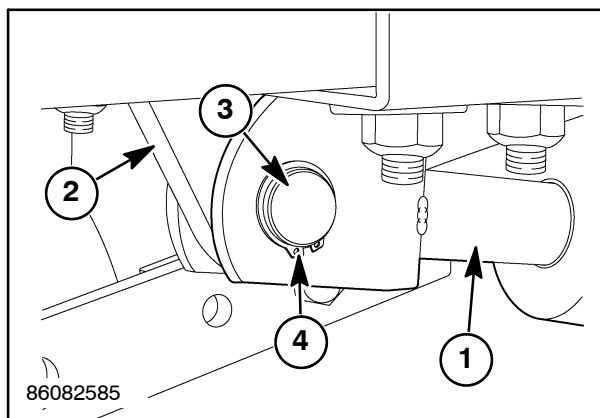
2. Install the cylinder head, 4, onto the rod, 5.
3. Install the bushing, 6, onto the rod, 5.
4. Install a new piston seal, 7, onto the piston, 8.

5. Slide the piston, 8, onto the rod, 5.
6. Install a new O-ring, 9, onto the rod, 5.
7. Fasten the M20 x 15 nut, 10, to the top of the rod, 5.
8. Place the lower end of the rod, 5, in a vice. And then torque the M20 x 1.5 nut, 10, to 400 N·m (295 ft-lbs).
9. Place the end of the cylinder, 11, in a vice, and then carefully slide the rod, 5, down into the cylinder.
10. Fasten the cylinder head, 4, to the cylinder, 11, using the adjustable spanner wrench. **Special Tool # FNH01889**
11. Torque the cylinder head to 170 N·m (125 ft-lbs).



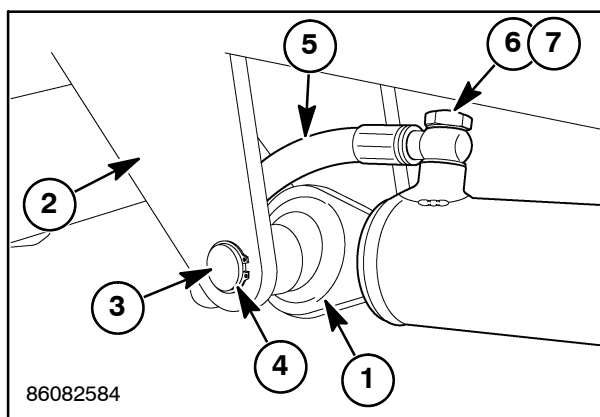
### Installation

1. Install the rod, 1, to the mount, 2, on the lateral arm.
2. Slide the pin, 3, through the rod, 1.
3. Secure the pin, 3, with an external E25 snap ring, 4.



21

4. Line up the cylinder, 1, to the mount, 2, on the lateral arm. Then slide the pin, 3, through the cylinder.
5. Secure the pin, 3, with an external E25 snap ring, 4.
6. Reinstall the 3/8 in hydraulic hose, 5, to the cylinder, 1. Secure the hose to the cylinder using the 3/8 in banjo bolt, 6, and two 3/8 in copper washers, 7.



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**NOTE:** Use new copper washers when securing the hose to the cylinder.

7. Check the hydraulic oil level in the tractor and add oil as necessary.
8. With the Flex Wing mower connected to the tractor. Raise and lower the Flex Wing mower decks several times until all the air is bled out of the lateral cylinders.
9. Once all the air is bled out from the rear cylinder. The Flex Wing mower decks should rise up and down smoothly.

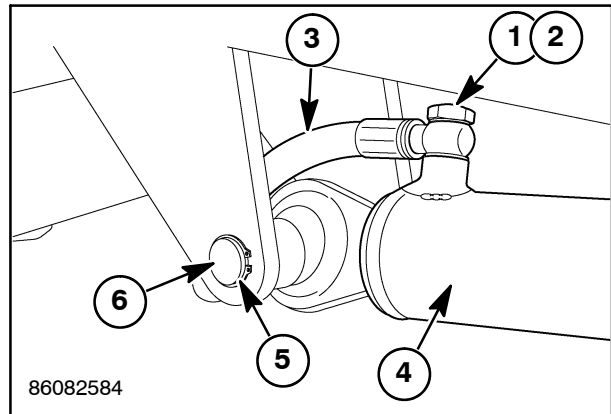
## LATERAL HYDRAULIC CYLINDER REMOVAL (430GM)

### Preparation

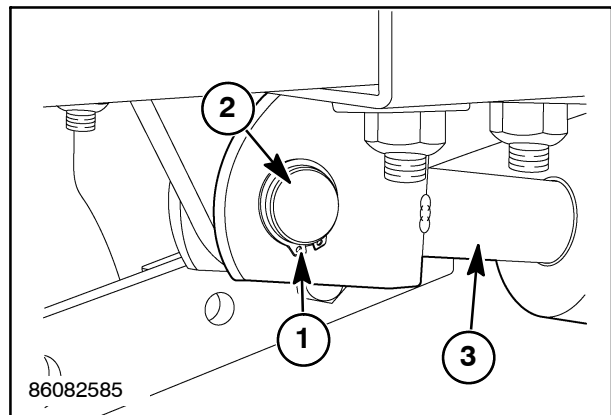
1. Before removing the hydraulic cylinders from the Flex Wing mower, make sure the Flex Wing mower is parked on level ground.
2. Lower all the mower decks to their lowered position. This will relieve the pressure in the cylinders and allow access to the cylinders.

### Removal

1. Remove the 3/8 in banjo bolt, 1, and two 3/8 in copper washers, 2, from the hydraulic hose, 3. Then remove the 3/8 in hydraulic hose, 3, from the cylinder, 4.
2. Remove the external E25 snap ring, 5, from the pin, 6.
3. Remove the pin, 6, from the cylinder, 4, by using a hammer and a punch.
4. Remove the external E25 snap ring, 1, from the pin, 2.
5. Remove the pin, 2, from the rod, 3, by using a hammer and punch.
6. The cylinder can now be removed from the lateral arm.

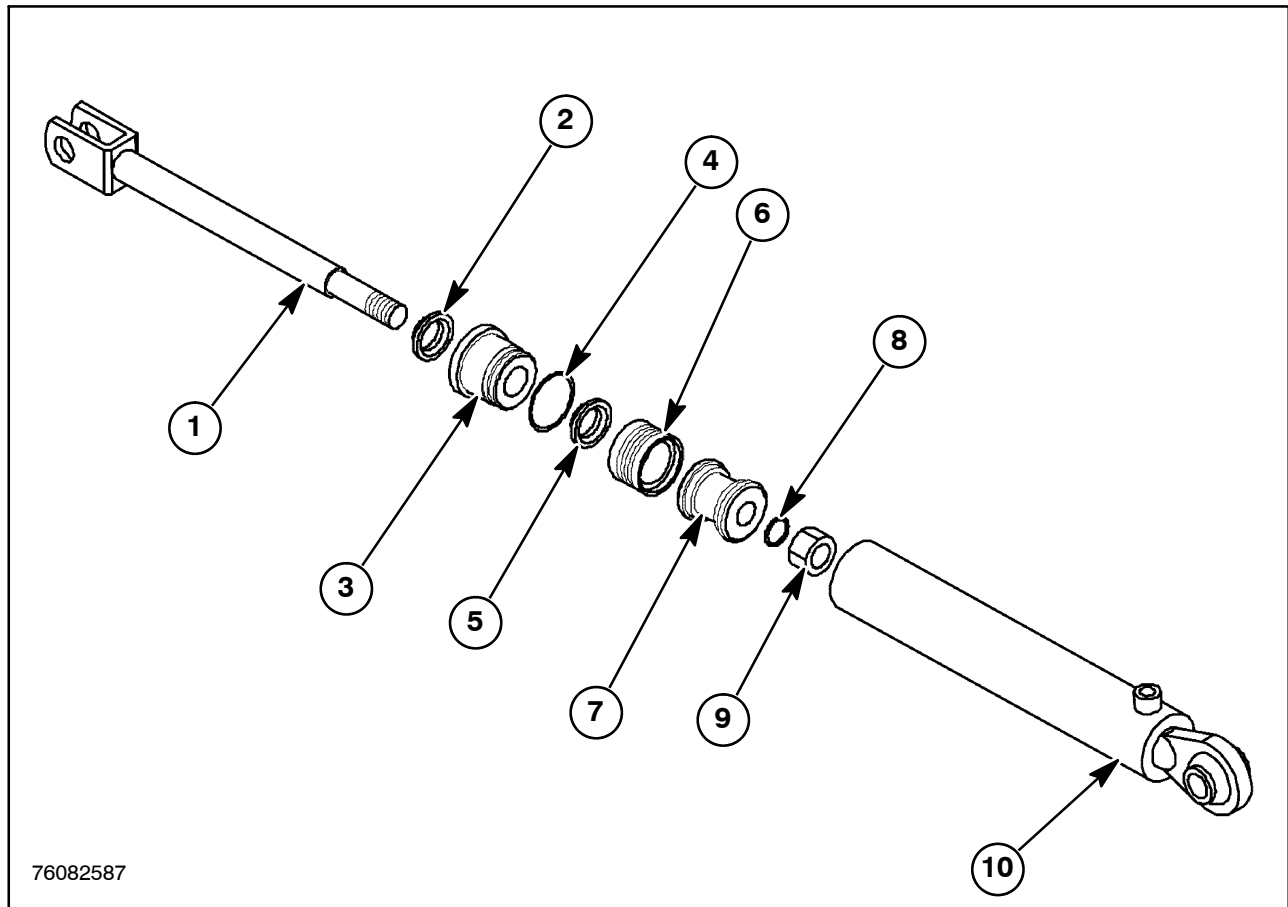


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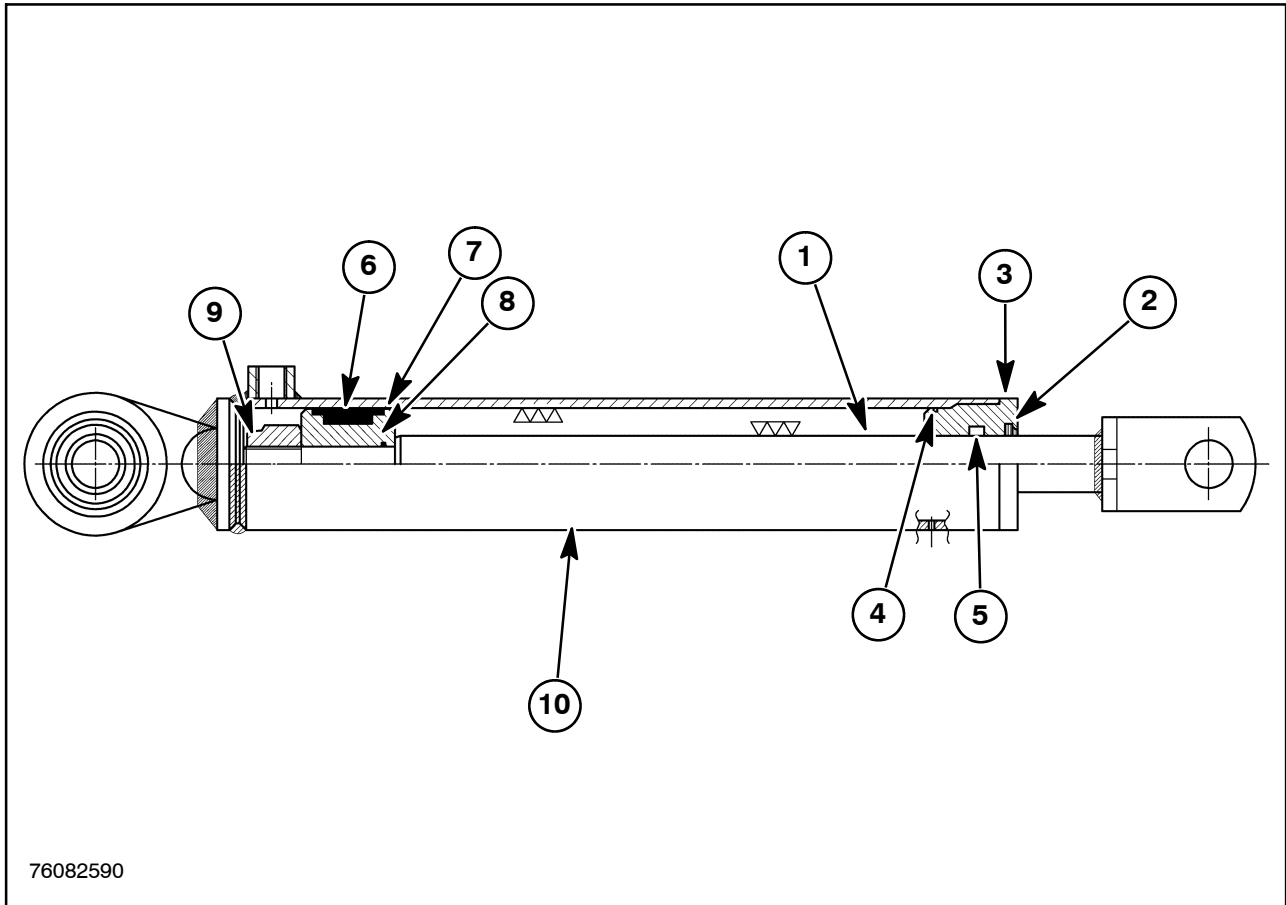
**LATERAL CYLINDER COMPONENTS (APART) (430GM)**



- 1. Rod
- 2. Seal, Wiper
- 3. Head, Cylinder
- 4. O-ring
- 5. Seal, Inner

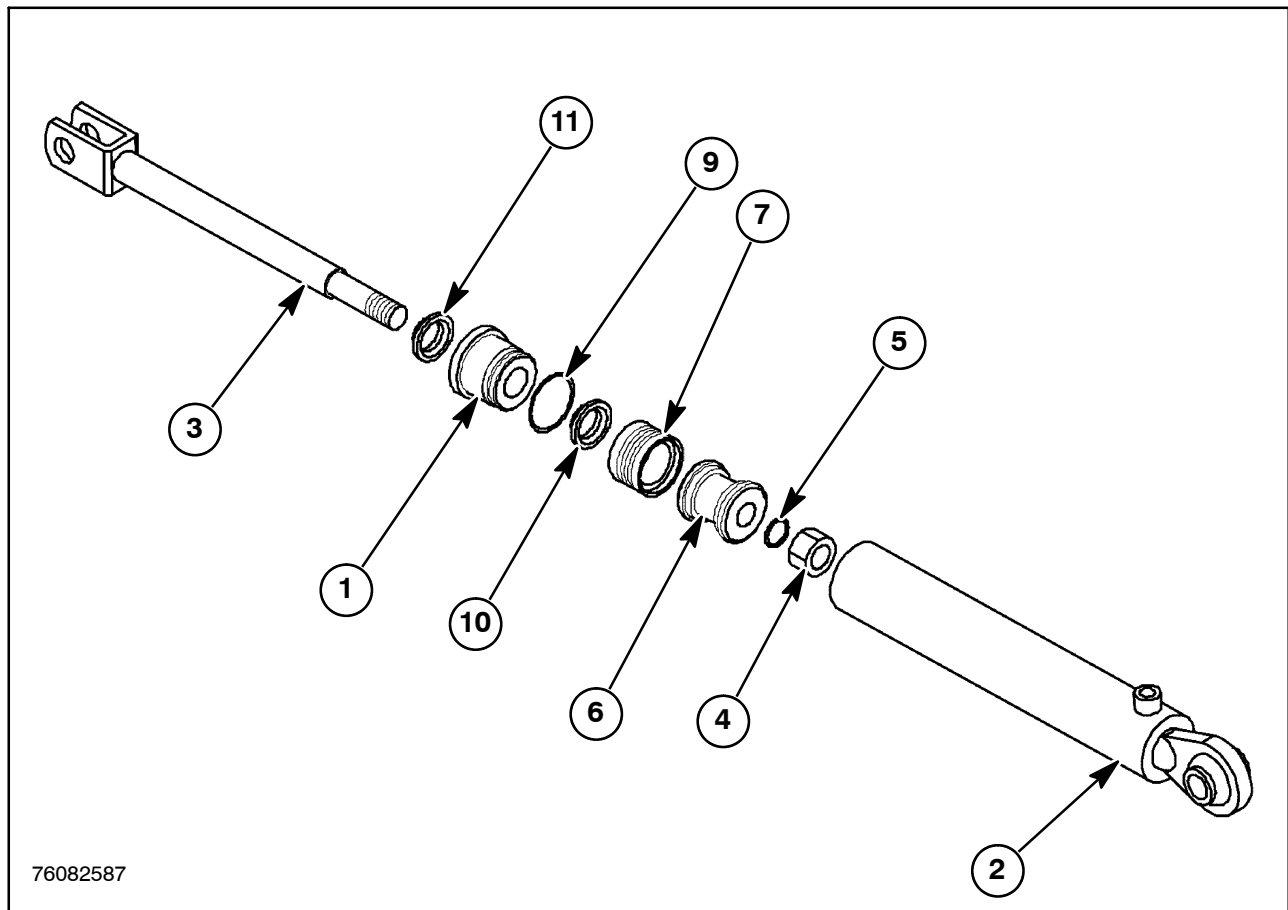
- 6. Seal, Piston
- 7. Piston
- 8. O-ring
- 9. Nut, M20 x 1.5
- 10. Cylinder

**LATERAL CYLINDER COMPONENTS (TOGETHER) (430GM)**



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- |                   |                   |
|-------------------|-------------------|
| 1. Rod            | 6. Seal, Piston   |
| 2. Seal, Wiper    | 7. Piston         |
| 3. Head, Cylinder | 8. O-ring         |
| 4. O-ring         | 9. Nut, M20 x 1.5 |
| 5. Seal, Inner    | 10. Cylinder      |



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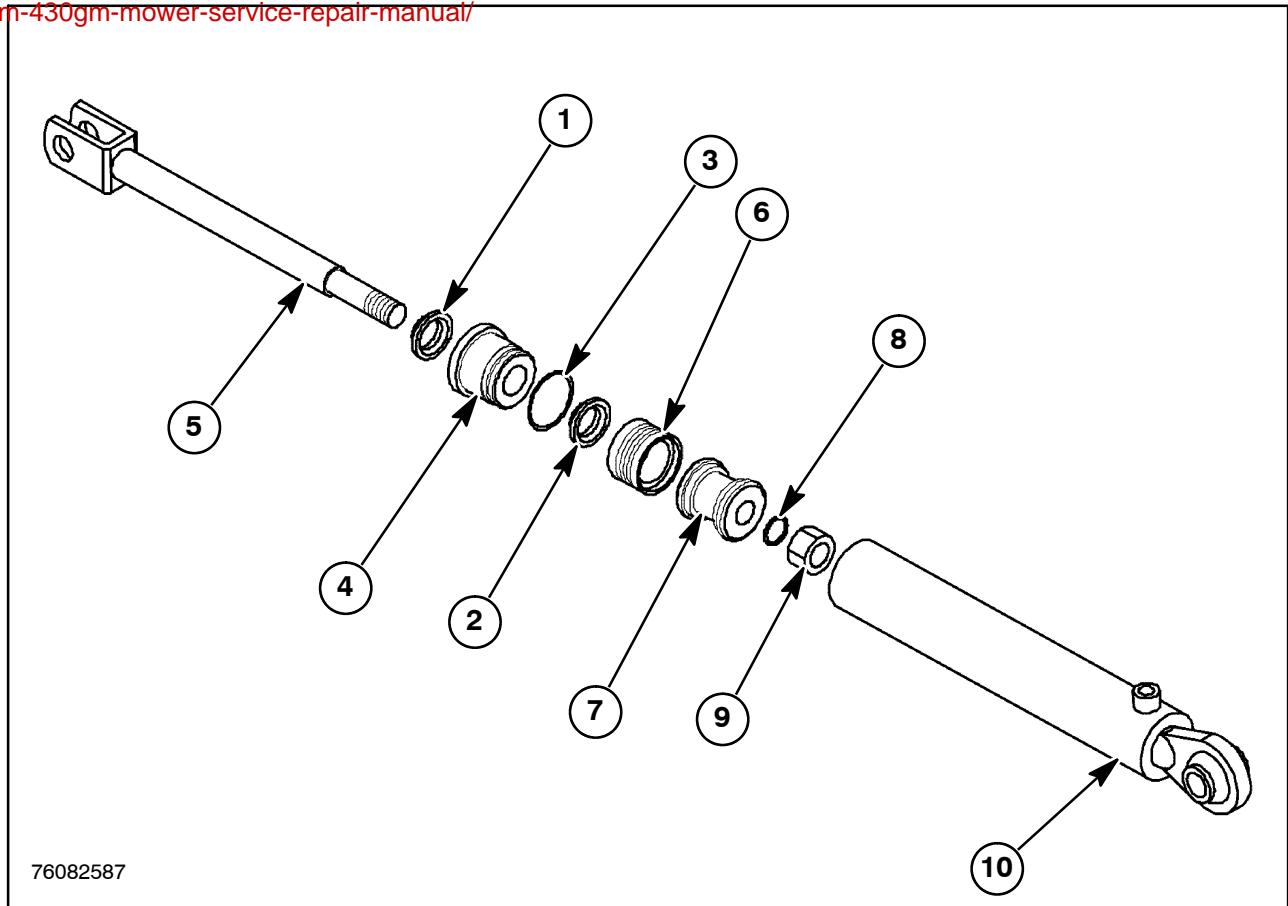
### Disassembly

1. Remove the cylinder head, 1, off of the cylinder, 2, using the adjustable spanner wrench. **Special Tool # FNH01889**

**NOTE:** Drain all the hydraulic fluid out of the cylinder before taking it apart.

2. Place the end of the cylinder in a vice, and then carefully pull the rod, 3, out of the cylinder.

3. Remove the M20 x 1.5 nut, 4, from the top of the rod, 3.
4. Remove the O-ring, 5, and piston, 6, from the rod, 3.
5. Remove the piston seal, 7, from the piston, 6.
6. Remove the cylinder head, 1, from the rod, 3.
7. Remove the O-ring, 9, inner seal, 10, and wiper seal, 11, from the cylinder head, 3



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### Inspection

1. Clean and inspect the cylinder, rod and components for any wear or damage. Replace as necessary.
2. Replace all the seals during assembly.

### Assembly

1. Install a new wiper seal, 1, new inner seal, 2, and a new O-ring, 3, to the cylinder head, 4.

**NOTE:** Lube all seals and O-rings with hydraulic oil before installing them.

2. Install the cylinder head, 4, onto the rod, 5.
3. Install a new piston seal, 6, onto the piston, 7.

4. Slide the piston, 7, onto the rod, 5.
5. Install a new O-ring, 8, onto the rod, 5.
6. Fasten the M20 x 15 nut, 9, to the top of the rod, 5.
7. Place the lower end of the rod, 5, in a vice. And then torque the M20 x 1.5 nut, 9, to 400 N·m (295 ft-lbs).
8. Place the end of the cylinder, 10, in a vice, and then carefully slide the rod, 5, down into the cylinder.
9. Fasten the cylinder head, 4, to the cylinder, 10, using the adjustable spanner wrench. **Special Tool # FNH01889**
10. Torque the cylinder head to 170 N·m (125 ft-lbs).