# X115R, X135R, X155R, 92H, 107H Tractors Diagnostic and Repair

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## TECHNICAL MANUAL

### Lawn Tractors EXPORT models X155R, X115R, 107H, X135R, 92H

**TM113419 28 JAN 16 (ENGLISH)**

**John Deere Commercial and Consumer Equipment Lawn and Garden**
**Pinted by Belgreen**

TM113419

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# Group 05 - Safety

## Recognize Safety Information



***Safety-alert symbol***

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

## Understand Signal Words




***Signal Words***

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

## Follow Safety Instructions

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# Group 20 - Machine Specifications

## Machine Specifications

**→NOTE:**

**Specifications and design subject to change without notice.**

### General Specifications

| | X115R | X135R, 92H | X155R, 107H |
|---|---|---|---|
| **Ground Speed:** | | | |
| Forward | 0—8.4 km/h (0—5.2 mph) | | |
| Reverse | 0—4.8 km/h (0—3.0 mph) | | |

| **Engine:** | | | |
|---|---|---|---|
| Make | Briggs & Stratton | | |
| Engine Power Information | http://www.briggsandstratton.com | | |
| Type | Gas | | |
| Model (-MY2013) SN -050000 | M21 | 401577 | 405577 |
| Model (MY2014-) SN 050001- | 21R877 | 40R577 | 40R677 |
| Cylinders | Single | V-twin | |
| Low Idle Speed (Governed) | 1750 ± 100 rpm | 1750 ± 100 rpm | |
| High Idle Speed (without Mower Deck) | 3350 ± 100 rpm | 3150 ± 100 rpm | |
| Displacement | 0.340 L (20.74 in. $^3$ ) | 0.656 L (40.0 in. $^3$ ) | |
| Bore | 87.37 mm (3.44 in.) | 75.44 mm (2.97 in.) | |
| Stroke | 57.4 mm (2.26 in.) | 73.41 mm (2.89 in.) | |

| | | |
|---|---|---|
| Lubrication | Filtered | Pressurized |
| Crankcase Capacity | | 1.8 L (1.9 qt.) |
| Crankcase (with Filter) | | 1.9 L (2.0 qt.) |
| Cooling | Air Cooled | |
| Air Cleaner | Cartridge | Paper with Outer Foam |
| Engine Shut Off | Key Switch | |

| **Fuel System:** | |
|---|---|
| Type | Mechanical Vacuum Pump |

| **Electrical System:** | | |
|---|---|---|
| Type | 12 Volt Negative Ground | |
| Stator | 9 amp regulated | |
| Battery | 12-volt | |
| Battery Type | BCI Group U1 | |
| Stator Output at High Idle | 3—9 amps | |
| Spark Plug | Champion XC92YC | Champion RC12YC |
| Spark Plug Gap | 0.76 mm (0.030 in.) | |
| Ignition Coil Air Gap | 0.20—0.30 mm (0.008—0.012 in.) | |
| Headlight Bulb | GE1156 or equivalent | |

| **Power Train:** | |
|---|---|
| Transaxle | Tuff Torq K46CY |
| Brake Type | Internal Wet Disc |
| Transaxle Oil Capacity | 2.2 L (2.3 qt.) |

| **Steering:** |
|---|

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## Straight Fitting or Special Nut Torque Chart

| STRAIGHT FITTING OR SPECIAL NUT TORQUE CHART | | |
|---|---|---|
| **Thread Size** | **N˙m** | **lb-ft** |
| 3/8-24 UNF | 8 | 6 |
| 7/16-20 UNF | 12 | 9 |
| 1/2-20 UNF | 16 | 12 |
| 9/16-18 UNF | 24 | 18 |
| 3/4-16 UNF | 46 | 34 |
| 7/8-14 UNF | 62 | 46 |
| 1-1/16-12 UN | 102 | 75 |
| 1-3/16-12 UN | 122 | 90 |
| 1-5/16-12 UN | 142 | 105 |
| 1-5/8-12 UN | 190 | 140 |
| 1-7/8-12 UN | 217 | 160 |

**→NOTE:**

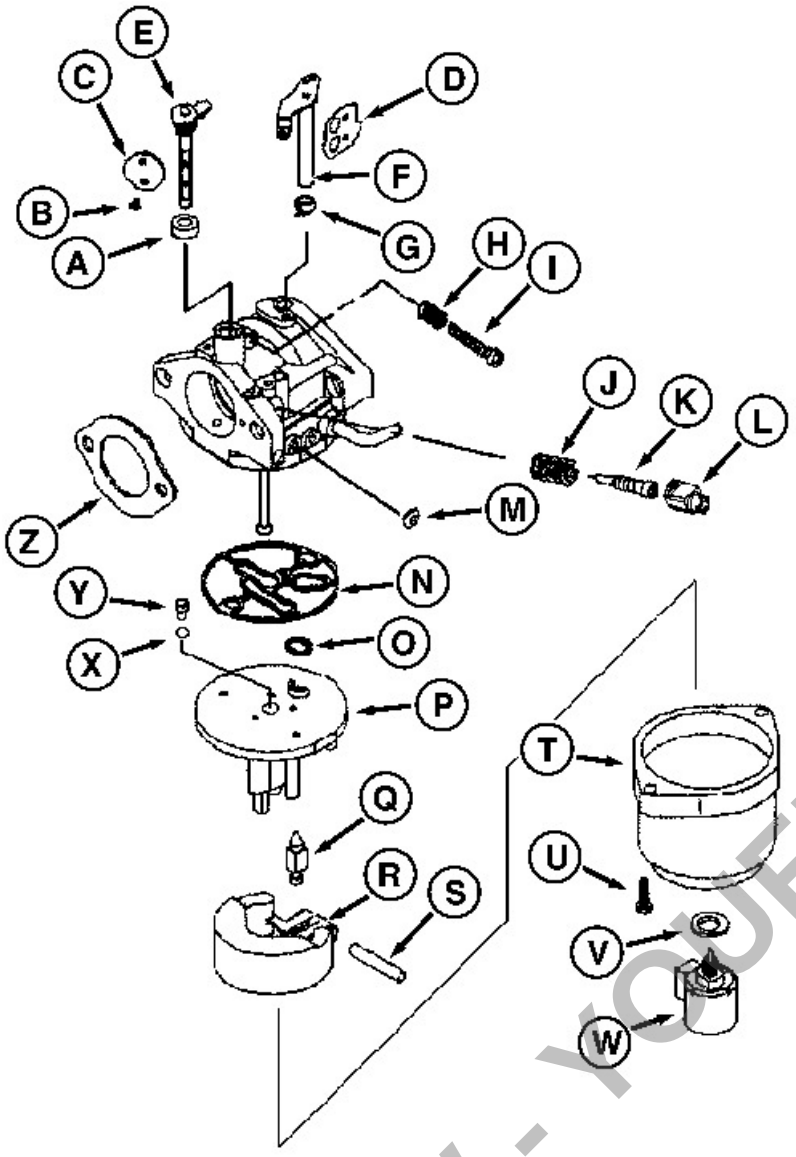
**Torque tolerance is ± 10%.**

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# Assemble Carburetor Single Cylinder




***Carburetor Components***

**LEGEND:**

| | |
|---|---|
| A | Shaft Seal |
| B | Screw |
| C | Throttle Valve Plate |
| D | Throttle Shaft |
| E | Choke Valve Plate |
| F | Choke Shaft |
| G | Shaft Seal |
| H | Spring |
| I | Idle Speed Screw |
| J | Spring |
| K | Idle Needle Valve |
| L | Limiter Cap |
| M | Plug |
| N | Rubber Gasket |
| O | O-ring |
| P | Fuel Transfer Plate |
| Q | Fuel Inlet Valve |
| R | Float |
| S | Pin |
| T | Sediment Bowl |
| U | Screw |
| V | Seal Washer |
| W | Fuel Shutoff Solenoid |
| X | O-ring |

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# Group 45 - Wiring Schematics X135R, X155R, 92H, 107H

## Summary of References


- Wiring Schematic Legend (SN -040000)
- Wiring Schematic (SN -040000)
- Wiring Schematic Legend (SN 040001-)
- Wiring Schematic (SN 040001-)


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# Group 15 - Diagnosis

## Engine Starting Diagnosis

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*Engine Starting Diagnosis*

**CAUTION:**

***The engine may start to rotate at any time. Keep hands away from all moving parts when testing.***

**CAUTION:**

***Do not rotate engine with starter if the spark plug is removed. Gasoline spray from the open cylinder may be ignited by ignition spark and cause an explosion or fire.***

**→NOTE:**

**To test specific electrical components, see Electrical section and refer to either Diagnostics or Tests and Adjustments for further guidance.**

**→NOTE:**

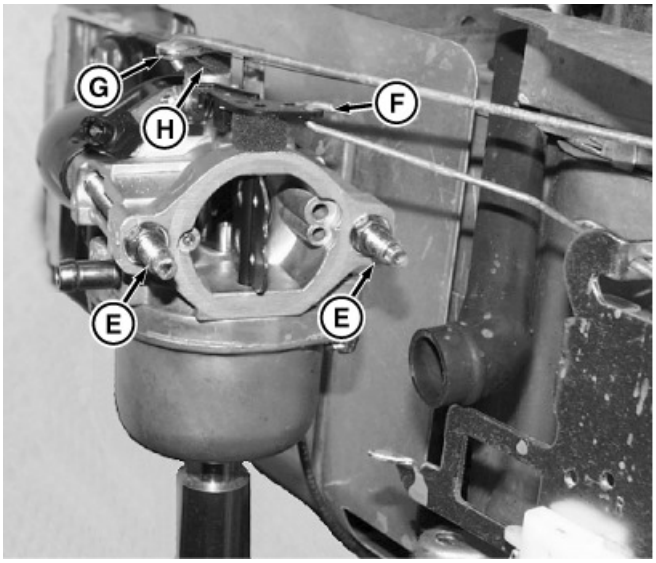
**Perform a visual inspection first to determine if battery cables are tight and not corroded. The battery must be sufficient size to turn the engine over at minimum cranking speed of 350 rpm.**

| Symptom | Problem | Solution |
|---|---|---|
| ***Engine Will Not Crank*** | Battery | a. Charge and test battery. (See Battery Voltage and Specific Gravity Tests .) |
| | | b. Replace the battery if it will not take or hold a charge. |
| | Starting Motor Solenoid does not click when ignition switch is turned to start position. | a. Cranking circuit problem. (See Cranking Circuit Diagnosis (SN -040000) , or Cranking Circuit Diagnosis (SN 040001-) .) |
| | | b. Key switch malfunction. (See Key Switch Test .) |
| | | c. Starting motor solenoid malfunction. (See Starting Solenoid Test .) |
| ***Engine Cranks But Will Not Start*** | Engine cranks slowly. | a. Charge and test battery. (See Battery Voltage and Specific Gravity Tests .) |
| | | b. Replace the battery if it will not hold a charge. |
| | Poor or no spark at spark plug. | a. Replace spark plug. |
| | | b. Ignition coil gap incorrect. (See Armature Air Gap Adjustment .) |
| | | c. Magneto shorted to ground, flywheel magnet weak. |
| | Choke or throttle not adjusted properly. | a. Adjust cable. (See Throttle Cable Adjustment or Choke Cable Adjustment .) |
| | Fuel supply. | a. Check air cleaner, fuel mixture, possible contaminated fuel, or stuck float needle. |
| | | b. Check fuel shutoff valve, fuel lines, fuel pump, and engine vacuum. |
| | Fuel shutoff solenoid does not open when ignition switch is turned to start/run. | a. Check fuel solenoid and ignition circuit. (See Ignition and Shutoff Circuit Diagnosis (SN -040000) or Ignition and Shutoff Circuit Diagnosis (SN 040001-) , and Solenoid Test—Fuel Shutoff .) |
| | Valve clearance improper. | a. Check and adjust valve clearance. (See Valve Clearance Adjustment Single Cylinder , or Valve Clearance Adjustment for v-twin engine.) |
| | Internal components binding. | a. Remove spark plug and turn the engine over by hand. If the engine is hard to turn over by hand repair or replace engine. |

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**LEGEND:**

| | |
|---|---|
| E | Studs |
| F | Choke Linkage |
| G | Governor Linkage |
| H | Spring |

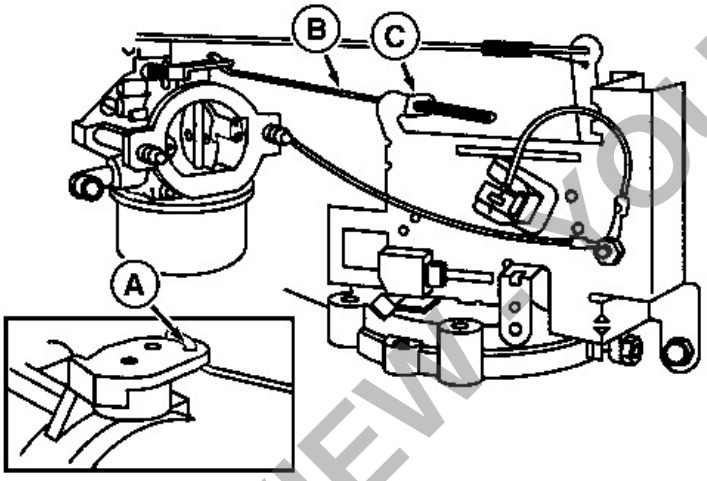
***Carburetor Disconnect and Remove***

Loosen and remove the two studs (E) holding the carburetor to the intake manifold.

**[7] -** Carefully pull the carburetor away from the intake manifold and rotate the carburetor to disengage the choke linkage (F), governor link (G) and governor link spring (H).

**[8] -** Remove carburetor and gasket.

## Install Carburetor Single Cylinder




**LEGEND:**

| | |
|---|---|
| A | Outer Hole |
| B | Choke Link |
| C | Slot |

***Carburetor Linkage***

**[1] -**

***CAUTION:***

***Before starting or running engine, static adjustment of the governor must be made. Failure to make static adjustments first, may result in engine overspeeding, engine or equipment damage, personal injury, or property damage.***

Connect governor link and governor link spring to throttle lever.

**[2] -** Install choke link to outer hole (A) of choke lever on carburetor.

**[3] -** Position gasket in place on the carburetor and slide choke link (B) into slot (C) in choke control bracket.

**[4] -** Making certain that the gasket is in place, install the carburetor studs and tighten to specification.

| Item | Measurement | Specification |
|---|---|---|
| Carburetor Mounting Studs | Torque | 8 N·m |

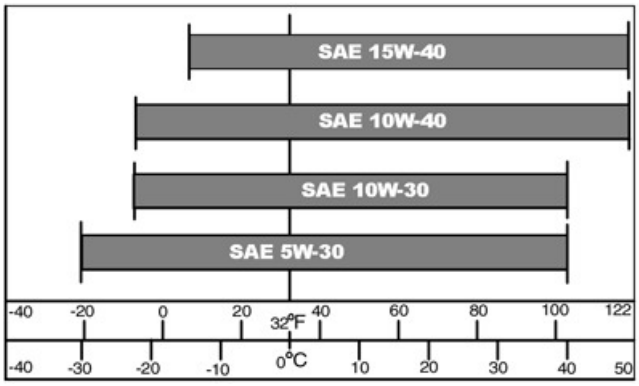
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# Group 15 - Fuels and Lubricants

## Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.




***Oil Chart***

**The following John Deere oils are preferred:**

- TURF-GARD™
- PLUS- 4™

**Other oils may be used if above John Deere oils are not available, provided they meet the following specification:**

- API Service Classification SJ or higher

## Oil Filters

Filtration of oils is critical to proper operation and lubrication.

Always change filters regularly as specified in this manual.

Use filters meeting John Deere performance specifications.

## Gasoline Fuel for 4-Cycle Engines

Use unleaded gasoline with a minimum octane rating of 87 AKI (anti-knock index) or 90 RON (research octane number). Gasoline fuels specified to EN 228 or ASTM D4814 are recommended.

Fuel blends of unleaded gasoline with a maximum 10% ethanol or 15% MTBE (methyl tertiary-butyl ether) are also acceptable.

***CAUTION:***

***Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when the engine is running or hot. Stop engine and allow it to cool for several minutes before filling fuel tank. Fill fuel tank only to the bottom of the filler neck.***

***Refuel outdoors. DO NOT smoke while you fill the fuel tank or service the fuel system.***

***Store fuel in properly identified polyethylene containers.***

When storing fuel, add John Deere Gasoline Conditioner and Stabilizer (or equivalent) at the specified concentration.

***IMPORTANT:***

***DO NOT use methanol or fuel blends that contain methanol.***

***Avoid spilling fuel. Gasoline can damage plastic and painted surfaces.***

***DO NOT mix oil with gasoline.***

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# Foreword

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.

**CAUTION:**

This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical manuals are divided in two parts: repair and operation and tests. Repair sections tell how to repair the components. Operation and tests sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

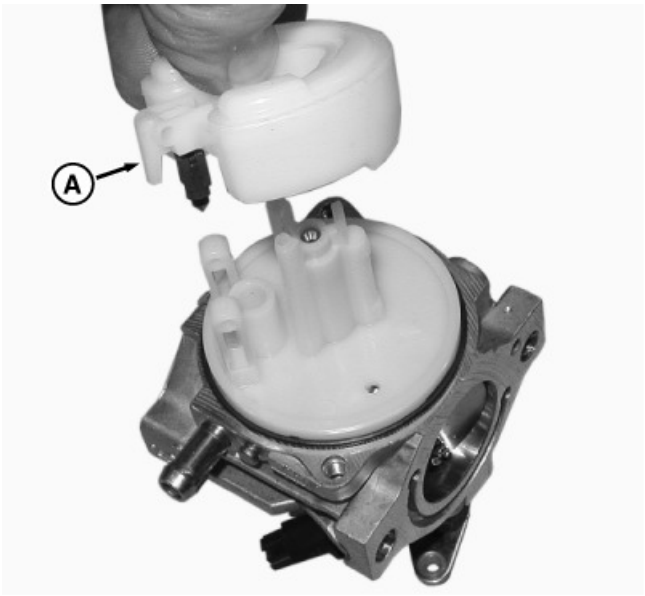
Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

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# Disassemble Carburetor Single Cylinder




**LEGEND:**

| | |
|---|---|
| A | Valve Assembly |

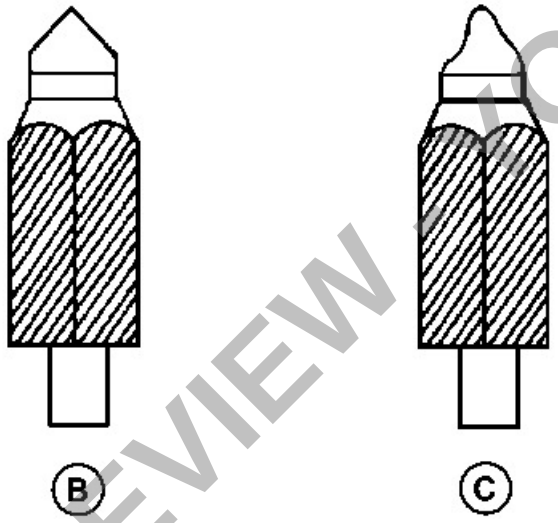
***Float and Fuel Inlet Valve Assembly***

**[1] -** Remove fuel shutoff solenoid and fuel bowl washer.

**[2] -** Remove float bowl and float bowl gasket from carburetor.

**[3] -** With a small punch, push the float hinge pin out of float hinge. Remove float and fuel inlet valve assembly (A).

**[4] -**




***Float Valve***

**LEGEND:**

| | |
|---|---|
| B | Good Valve |
| C | Damaged Valve |

Inspect the float valve for excessive wear or damage.

- The tip should be smooth, without any grooves, scratches, or tears (B). The rod at the opposite end of the needle should move smoothly when pushed in and released.
- If either the valve or the valve seat is worn or damaged (C), replace the float assembly and carburetor as a set.

**[5] -**

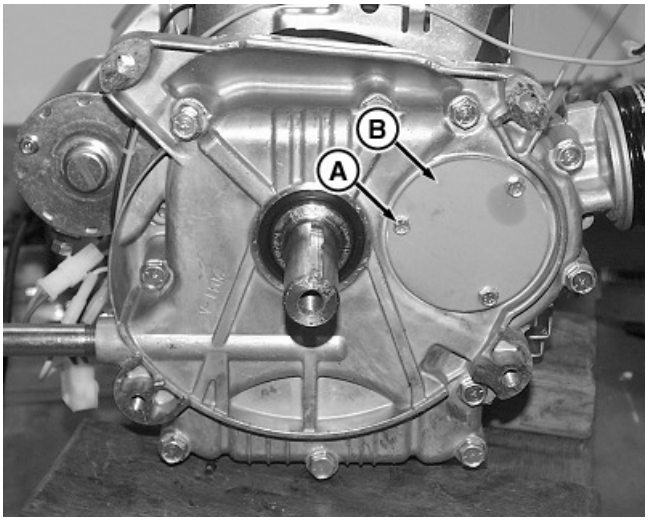
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# Remove Oil Pump Single Cylinder

**[1] -** Drain oil from sump and filter.

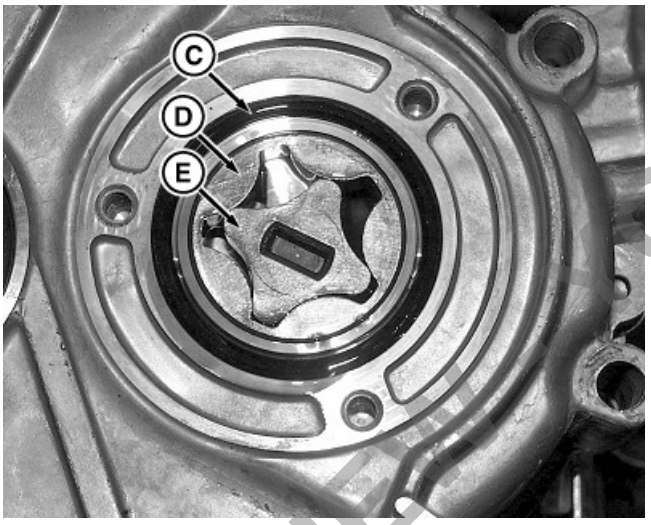
**[2] -**




***Cover and Screws***

Remove 3 screws (A) securing the oil pump cover. Remove the cover (B).

**[3] -**



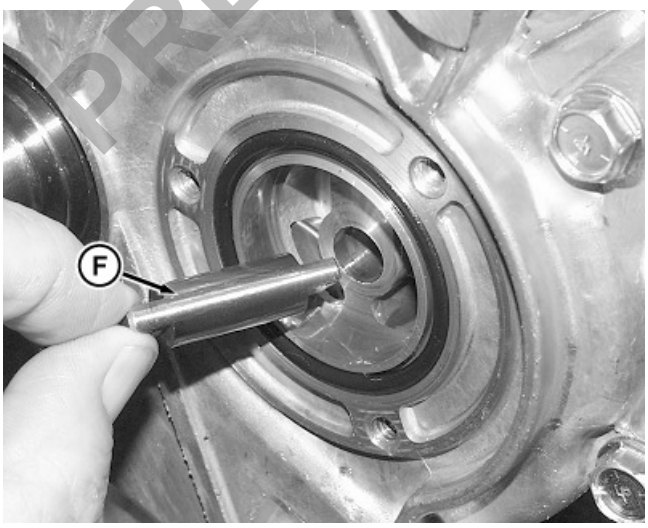

**LEGEND:**

| | |
|---|---|
| C | O-ring |
| D | Outer Rotor |
| E | Inner Rotor |

***Oil Pump***

Remove the O-ring (C), outer rotor (D), and inner rotor (E).

**[4] -**




**LEGEND:**

| | |
|---|---|
| F | Shaft |

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# Install Cylinder Air Guides Twin Cylinder

**[1] -** Install air guides in reverse order. Tighten air guide screws to specification.

| Item | Measurement | Specification |
|---|---|---|
| Air Guide Screws | Torque | 7 N•m (62 lb.-in.) |

**[2] -** Install carburetor. (See Install Carburetor Twin Cylinder .)

**[3] -** Install carburetor linkage.

**[4] -** Install air filter assembly.

**[5] -** Install upper blower housing. (See Install Upper Blower Housing Twin Cylinder .)

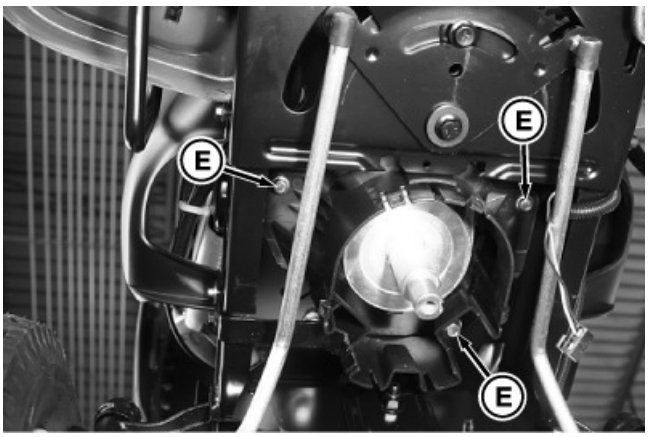
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| Item | Measurement | Specification |
| --- | --- | --- |
| | | (0.125 in.) |

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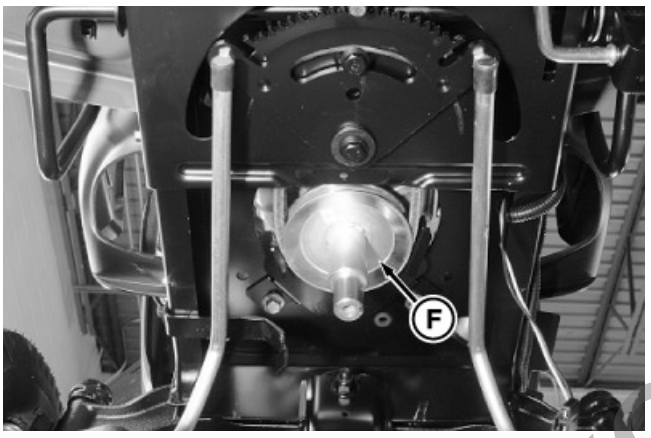



**LEGEND:**
E Bolts

***Drive Sheave Guard***

Remove three hex bolts (E) securing engine traction drive sheave guard to engine mounting platform. Remove guard with bolts.

**[10] -**

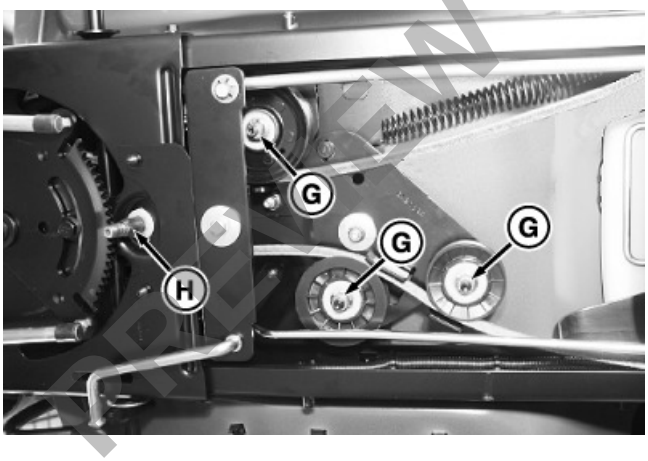



**LEGEND:**
F Sheave

***Traction Drive Sheave***

Slide traction drive sheave (F) and belt from engine shaft.

**[11] -**




**LEGEND:**
G Locknuts
H Steering Shaft

***Idler Tensioning Guides***

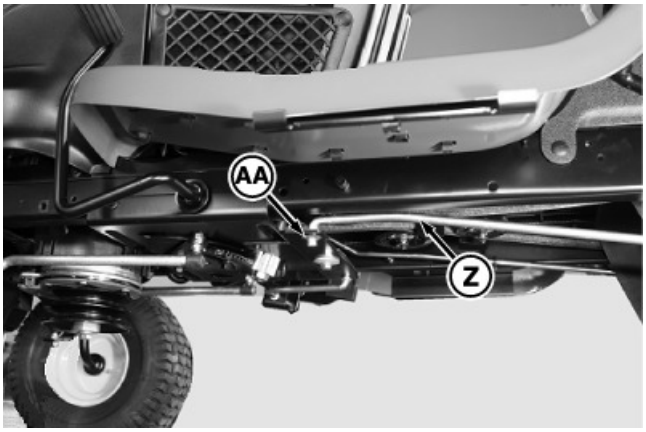
Loosen three locknuts (G) on drive belt idler and tensioner sheaves until sheaves can be displaced to remove belt. Remove belt from idler tensioning guides.

**[12] -** Raise steering shaft (H) only enough to clear drive belt. Remove belt from steering shaft.

**[13] -**

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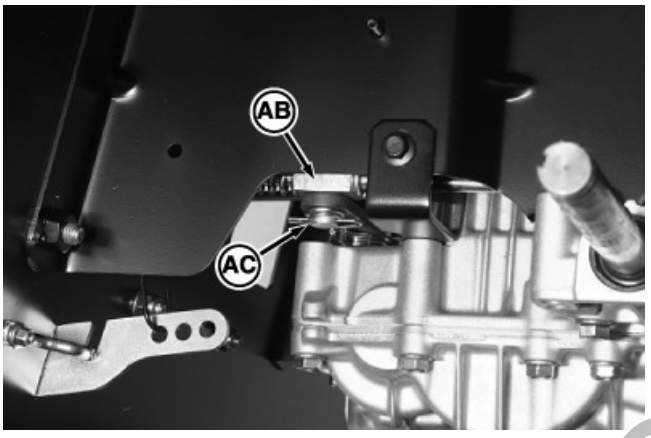

**LEGEND:**

| | |
|---|---|
| Z | Rod |
| AA | Push Nut |

***Forward and Reverse Rod***

Install forward and reverse control rod (Z) to cross arm under machine, and secure with push nut (AA).

**[22] -**




**LEGEND:**

| | |
|---|---|
| AB | Rod |
| AC | Spring Locking Pin |

***Brake Rod***

Release park brake. Install brake control rod (AB) to control arm on transaxle. Install washer and secure with spring locking pin (AC).

**[23] -** Install rear wheels. (See Install Rear Wheel .)

**[24] -** Install grass collector. (See Install Grass Collector .)

**[25] -** Lower machine and install mower deck. (See Install Mower Deck X155R and 107H .)

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# Remove and Install Mower Shields X115R, X135R, and 92H (SN 100001-)

## Remove Mower Shields

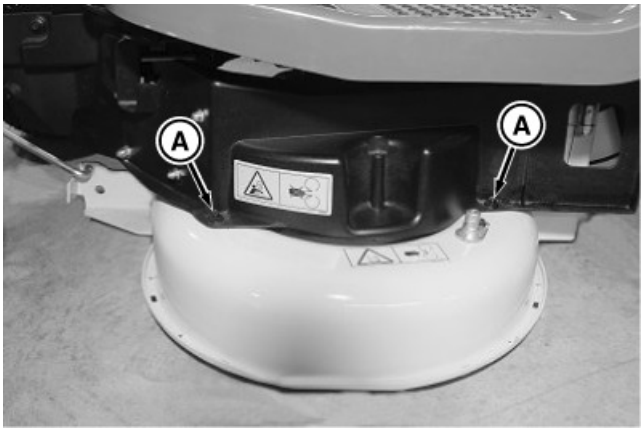
**[1] -** Park machine safely. See Parking Machine Safely.

**[2] -** Lower mower deck to lowest position.

**[3] -**

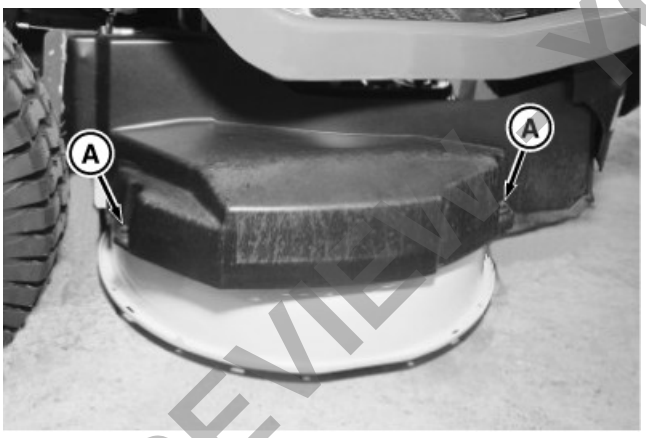
***CAUTION:***

***Avoid injury! Help prevent serious personal injury. Do not operate the mower without the belt shields installed.***




***X115R Left mower shield shown, X135R, and 92H similar.***

**LEGEND:**
A Captive Hex Bolt M8x20 (2 used)



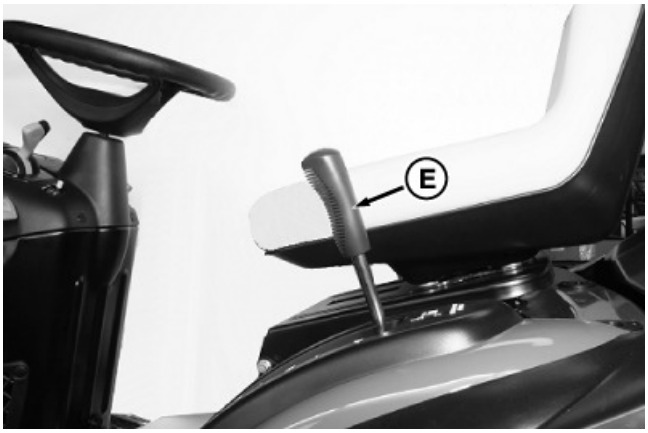

***X115R Right mower shield shown, X135R, and 92H similar.***

Remove screws (A) securing shield to mower deck. Remove shield.

## Install Mower Shields

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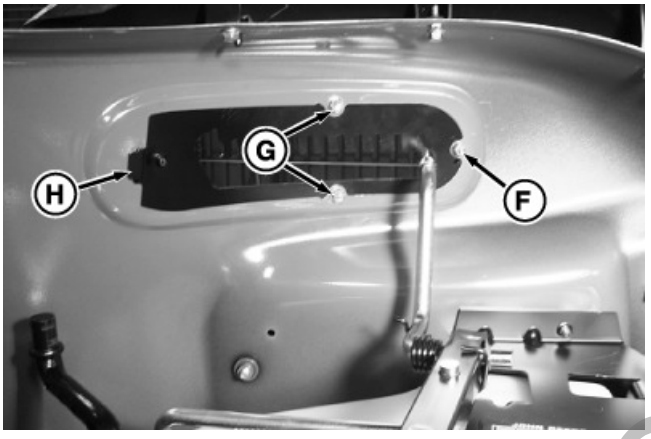

**LEGEND:**

| | |
|---|---|
| E | Grip |

***Lift Lever Grip***

Remove grip (E) from mower lift lever.

**[8] -**




**LEGEND:**

| | |
|---|---|
| F | Locknut |
| G | Screws |
| H | Tab |

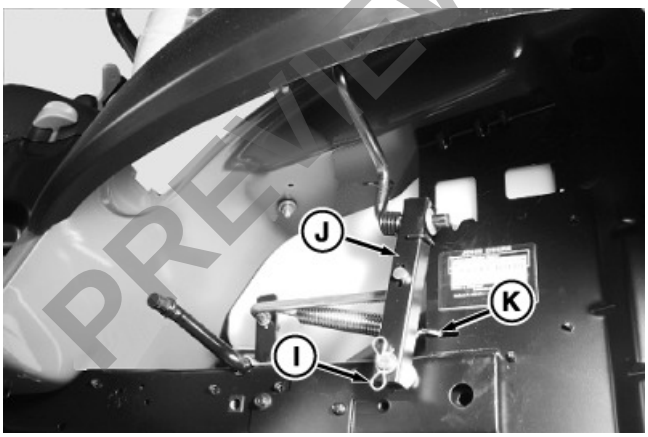
***Mower Lift Quadrant***

Remove hex locknut (F) and two hex screws (G) securing the mower lift quadrant from inside fender.

**[9] -** Rotate the quadrant on tab (H), and remove from lift lever and fender.

**[10] -** Rotate mower lift to highest position.

**[11] -**




**LEGEND:**

| | |
|---|---|
| I | Spring Locking Pin |
| J | Lift Link Arm |
| K | Spring |

***Lift Link Arm***

Remove the spring locking pin (I) and flat washer securing the deck lift link arm (J) to the pivot.

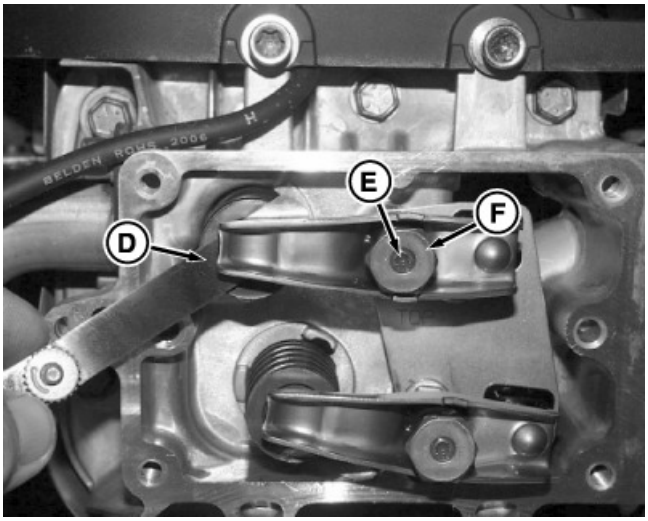
**[12] -** Remove link arm from pivot.

**[13] -** Remove the deck lift assist spring (K) from frame slot and lift arm bracket.

**[14] -**

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### *Valve Clearance*

Check valve clearance with a feeler gauge (D) between valve stem and rocker arm.

**[7] -** If not within specification, adjust as necessary by loosening set screw (E) and adjusting nut (F) until slight drag is felt on feeler gauge.

| Item | Measurement | Specification |
|---|---|---|
| Intake Valve | Clearance | 0.08—0.13 mm (0.003—0.005 in.) |
| Exhaust Valve | Clearance | 0.13—0.18 mm (0.005—0.007 in.) |

Hold nut with wrench and tighten set screw to specification.

| Item | Measurement | Specification |
|---|---|---|
| Valve Adjustment Nut | Torque | 7 N·m (60 lb.-in.) |

**[8] -** Recheck clearance and make adjustments if necessary.

**[9] -** Install spark plug and tighten to specification.

| Item | Measurement | Specification |
|---|---|---|
| Spark Plug | Torque | 20 N·m (180 lb.-in.) |

**[10] -** Install valve cover with new gasket. Tighten screws to specification.

| Item | Measurement | Specification |
|---|---|---|
| Valve Cover Screws | Torque | 7 N·m (60 lb.-in.) |

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| | |
|---|---|
| E4 | Spark Plug |
| F1 | Fuse, 20 Amp |
| G1 | Battery |
| K1 | RIO Latch Relay |
| K2 | PTO Relay |
| P1 | Hour Meter |
| S1 | Key Switch |
| S2 | PTO Switch |
| S3 | Brake Switch |
| S4 | RIO Switch |
| S5 | Seat Switch |
| S6 | Reverse Switch |
| Sp-1 | Splice 1 (ignition) |
| Sp-2 | Splice 2 (ground) |
| Sp-3 | Splice 3 (rear harness power) |
| Sp-4 | Splice 4 (rear harness ground) |
| T1 | Magneto Ignition Coil |
| T2 | Magneto Ignition Coil |
| V1 | Diode |
| V2 | Diode |
| W1 | Shielded Ground |
| W2 | Rear Wiring Harness |
| W3 | Positive Jumper Wiring Harness |
| W4 | Negative Jumper Wiring Harness |
| W6 | Engine Wiring Harness |
| Y1 | Starting Motor Solenoid |
| Y3 | PTO Clutch |

## X115R PTO with RIO Circuit Schematic

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# Ignition and Shutoff Circuit Diagnosis (SN -040000)

## Test Conditions—Procedure A

- Machine parked safely.
- Park brake on.
- Hood open with hood switch closed manually.
- Battery fully charged.
- Power circuits checked and OK.
- Ground circuits checked and OK.
- Engine running.
- PTO in off position.
- Ignition test tools installed.

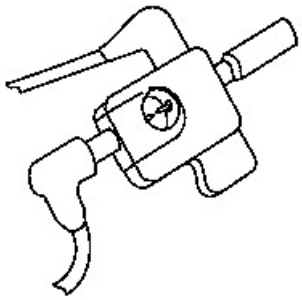
Refer to ignition and shutoff circuit theory of operation and schematic. (See Ignition and Shutoff Circuit X135R, X155R, 92H, 107H .)

# Ignition and Shutoff Circuit, Procedure A

**( 1 ) Spark Output**

## Action:

Install ignition tester and check spark outputs. Are spark outputs correct?



***Ignition Tester***

## Result:

**NO:**Go to Test Procedure **(B)** .

## Test Conditions—Procedure B

- Park machine safely.
- Park brake on.
- Hood open with hood switch closed manually
- Battery fully charged.
- Key switch in off position.
- PTO in off position.
- Engine cool to avoid burns.

Refer to ignition and shutoff circuit theory of operation and schematic. (See Ignition and Shutoff Circuit X135R, X155R, 92H, 107H .)

# Ignition and Shutoff Circuit, Procedure B

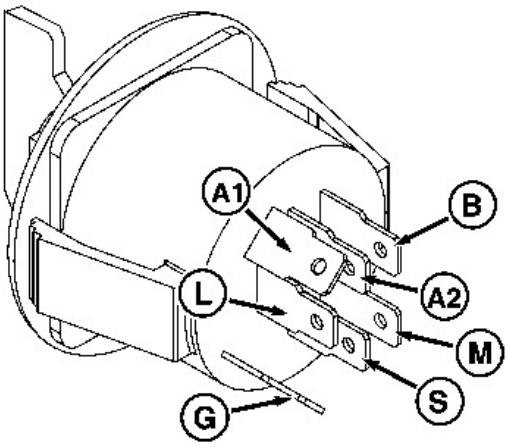
**( 1 ) Spark Plug**

## Action:

Visually inspect spark plugs. Check air gaps. Are spark plugs in good condition?

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**LEGEND:**

| | |
|---|---|
| A1 | A1 Terminal |
| A2 | A2 Terminal |
| B | B Terminal |
| G | G Terminal |
| L | L Terminal |
| M | M Terminal |
| S | S Terminal |

***Key Switch Test***

**[1] -** Disconnect switch.

**[2] -** Use ohmmeter to check continuity across switch terminals.

a. If continuity is not present between terminals listed for each switch position, replace switch
b. If continuity exists between terminals not listed for each switch position, replace switch.

**Switch Continuity**

| Switch Continuity | |
|---|---|
| Off | M—G—A1 |
| Run (With Lights) | B—A1 and L—A2 |
| Run (Without Lights) | B—A1 |
| Start | B—S—A1 |

# Brake Switch Test

## Reason:

To determine proper operation of the brake switch.

## Test Connections:

- Set ohmmeter for 1X scale

**→NOTE:**

**On analog (swing needle) ohmmeters, set zero point before each test.**

## Procedure:

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**DEFINITIONS:**

| | |
|---|---|
| O | Washer |
| P | Spacer |
| Q | Bolt |
| R | Transaxle |
| S | Flange Nut |
| T | Right Torque Strap Bracket |
| U | Belt Guide (S.N. 040001-) |

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# Check and Adjust Toe-In

## Check Toe-in

In order to check and adjust toe-in accurately, steering components must be in good condition. All fasteners must be tightened to specification.

**[1] -** Park machine safely on flat level surface. (See “Park Machine Safely.”)

**[2] -** Adjust tire inflation pressure in both front tires to pressure stated on tire sidewall.

**[3] -** Center steering.

a. Rotate steering wheel counterclockwise to left steering stop.
b. Count turns while turning steering wheel clockwise to right steering stop.
c. Rotate steering wheel counterclockwise half the number of stop-to-stop turns to center steering.

**[4] -**

**→NOTE:**

**Tires must be properly inflated and resting on a level, even surface to check toe-in properly.**

Measure the distance from the floor to the center of the wheel hub on one of the front tires.

**[5] -** Use the measurement and mark the center rib on the front and rear of each front tire at that distance from the floor.

**[6] -** Push the front of the tires outward.

**[7] -** Measure the distance between the marks on the front of the tires. Measure the distance between the marks on the rear of the tires.

**[8] -** Subtract the front measurement from the rear measurement. Record this number.

**[9] -** Push the front of the tires inward (together).

**[10] -** Measure the distance between the marks on the front of the tires. Measure the distance between the marks on the rear of the tires.

**[11] -** Subtract the front measurement from the rear measurement. Record this number.

**[12] -** Add the two recorded measurements and divide by 2 to determine toe-in

**[13] -**

**→NOTE:**

**Machines (S.N. -700000) Adjustable drag links can be ordered as replacements. If the machine does not have adjustable drag links from the factory, install the adjustable right and left drag link assemblies and adjust as necessary.**

**Machines (S.N. 700001-) Adjustable tie rod can be ordered as replacement. If machine does not have adjustable tie rod from factory, install tie rod and adjust as necessary.**

Adjust toe-in if not within specification (adjustable drag links or tie rod only).

| Item | Measurement | Specification |
|---|---|---|
| **Toe-In Specifications** | | |
| Toe-In for 15 inch Front Tires (S.N. -700000) | Distance | 10—65 mm (3/8—2-9/16 in.) |
| Toe-In for 16 inch Front Tires (S.N. -700000) | Distance | 11—73 mm (7/16—2-7/8 in.) |
| Toe-In for 15 inch Front Tires (S.N. 700001-) | Distance | 0—25 mm (0—1 in.) |
| Toe-In for 16 inch Front Tires (S.N. 700001-) | Distance | 0—25 mm |

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