

# PREPARATION

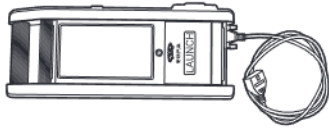
|                                         |              |                                      |              |
|-----------------------------------------|--------------|--------------------------------------|--------------|
| <b>SQR477F ENGINE MANAGEMENT SYSTEM</b> | <b>03-3</b>  | <b>PARKING BRAKE</b>                 | <b>03-29</b> |
| Tools                                   | 03-3         | Tool                                 | 03-29        |
| <b>SQR477F ENGINE MECHANICAL</b>        | <b>03-5</b>  | <b>STEERING COLUMN</b>               | <b>03-30</b> |
| Tools                                   | 03-5         | Tools                                | 03-30        |
| <b>SQR477F FUEL SUPPLY SYSTEM</b>       | <b>03-11</b> | <b>HYDRAULIC ASSIST STEERING</b>     | <b>03-31</b> |
| Tools                                   | 03-11        | Tools                                | 03-31        |
| <b>SQR477F EMISSION CONTROL SYSTEM</b>  | <b>03-12</b> | <b>AIR CONDITIONING</b>              | <b>03-32</b> |
| Tool                                    | 03-12        | Tools                                | 03-32        |
| <b>SQR477F INTAKE SYSTEM</b>            | <b>03-13</b> | <b>SUPPLEMENTAL RESTRAINT SYSTEM</b> | <b>03-33</b> |
| Tools                                   | 03-13        | Tools                                | 03-33        |
| <b>SQR477F EXHAUST SYSTEM</b>           | <b>03-14</b> | <b>SEAT BELT</b>                     | <b>03-34</b> |
| Tools                                   | 03-14        | Tool                                 | 03-34        |
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| Tools                                   | 03-15        | Tools                                | 03-35        |
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| Tools                                   | 03-16        | Tool                                 | 03-36        |
| <b>SQR477F IGNITION SYSTEM</b>          | <b>03-17</b> | <b>DOOR LOCK</b>                     | <b>03-37</b> |
| Tool                                    | 03-17        | Tools                                | 03-37        |
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| Tool                                    | 03-18        | Tools                                | 03-38        |
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| Tool                                    | 03-19        | Tool                                 | 03-39        |
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| Tools                                   | 03-20        | Tool                                 | 03-40        |
| <b>CLUTCH</b>                           | <b>03-22</b> | <b>HORN</b>                          | <b>03-41</b> |
| Tools                                   | 03-22        | Tool                                 | 03-41        |
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| Tools                                   | 03-23        | Tools                                | 03-42        |
| <b>AXLE</b>                             | <b>03-24</b> | <b>REAR VIEW MIRROR</b>              | <b>03-43</b> |
| Tools                                   | 03-24        | Tool                                 | 03-43        |
| <b>SUSPENSION</b>                       | <b>03-26</b> | <b>INSTRUMENT PANEL</b>              | <b>03-44</b> |
| Tools                                   | 03-26        | Tools                                | 03-44        |
| <b>BRAKE CONTROL SYSTEM</b>             | <b>03-27</b> | <b>ENGINE HOOD/DOOR</b>              | <b>03-45</b> |
| Tools                                   | 03-27        | Tool                                 | 03-45        |
| <b>BRAKE</b>                            | <b>03-28</b> | <b>EXTERIOR</b>                      | <b>03-46</b> |
| Tools                                   | 03-28        | Tool                                 | 03-46        |
|                                         |              | <b>INTERIOR</b>                      | <b>03-47</b> |
|                                         |              | Tool                                 | 03-47        |



# SQR477F ENGINE MANAGEMENT SYSTEM

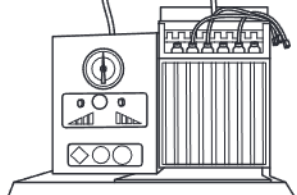
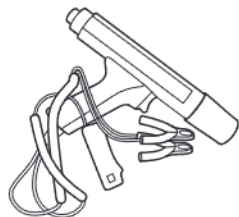
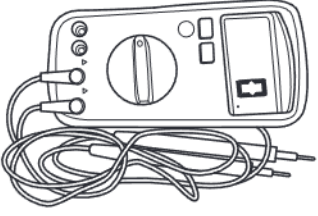
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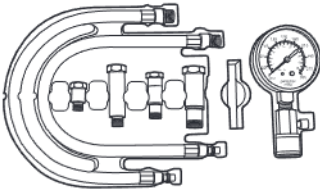
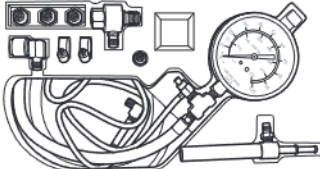
### Special Tool

|                            |                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------|
| X-431 3G Diagnostic Tester |  <p>RCH0000001</p> |
|----------------------------|------------------------------------------------------------------------------------------------------|

03

### General Tools

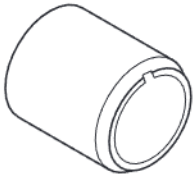
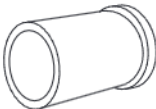
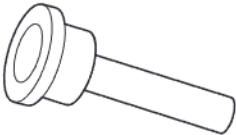
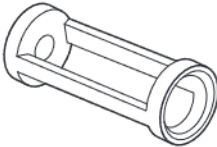
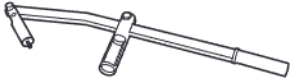
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|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Fuel Injector Cleaning Analyzer |  <p>RCH0000062</p>  |
| Ignition Timing Light           |  <p>RCH0000016</p> |
| Digital Multimeter              |  <p>RCH0000002</p> |

|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <p>Vacuum Gauge</p>            |  <p>RCH0000036</p>   |
| <p>Cylinder Pressure Gauge</p> |  <p>RCH0000044</p>    |
| <p>Fuel Pressure Gauge</p>     |  <p>RCH0000048</p>   |
| <p>Oscilloscope</p>            |  <p>RCH0000061</p> |

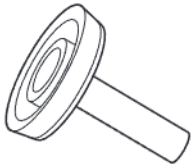
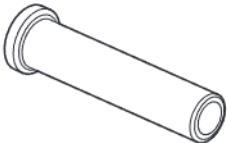
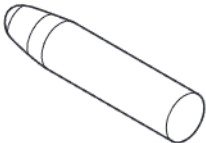
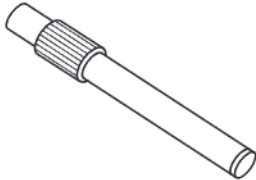
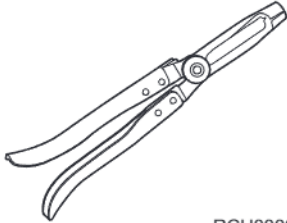
# SQR477F ENGINE MECHANICAL

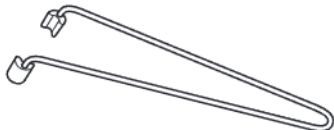
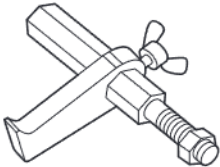
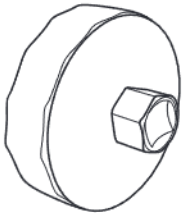
## Tools

### Special Tools

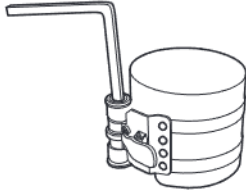
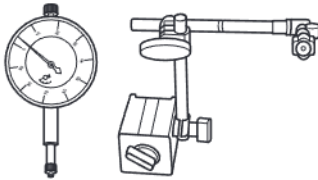
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|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Crankshaft Front Oil Seal Guide Tool |  <p>RCH0000049</p>   |
| Crankshaft Front Oil Seal Installer  |  <p>RCH0000067</p>   |
| Camshaft Oil Seal Installer          |  <p>RCH0000017</p> |
| Valve Spring Compression Adapter     |  <p>RCH0000050</p> |
| Valve Spring Compressor              |  <p>RCH0000028</p>  |

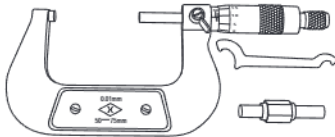
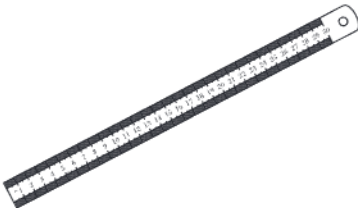
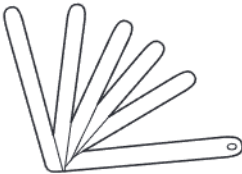
03

|                                                                     |                                                                                                    |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Crankshaft Rear Oil Seal Installer                                  | <br>RCH0000031  |
| Valve Oil Seal Installer                                            | <br>RCH0000034  |
| Valve Oil Seal Guide Sleeve                                         | <br>RCH0000035  |
| Driven Plate Assembly & Clutch Cover Assembly<br>Guide Special Tool | <br>RCH0000018 |
| Valve Oil Seal Remover                                              | <br>RCH0000037 |

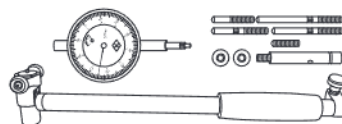
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|------------------------|--------------------------------------------------------------------------------------------------------|
| Valve Cotter Installer |  <p>RCH0000029</p>   |
| Flywheel Holding Tool  |  <p>RCH0000040</p>  |
| Oil Filter Remover     |  <p>RCH0000054</p> |

### General Tools

|                                    |                                                                                                        |
|------------------------------------|--------------------------------------------------------------------------------------------------------|
| Piston Installer                   |  <p>RCH0000039</p> |
| Dial Indicator and Magnetic Holder |  <p>RCH0000023</p> |

|                           |                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------|
| Outer Diameter Micrometer | <br>RCH0000064   |
| Vernier Caliper           | <br>RCH0000019   |
| Inner Diameter Micrometer | <br>RCH0000068 |
| Precision Straightedge    | <br>RCH0000063 |
| Feeler Gauge              | <br>RCH0000060 |

Cylinder Gauge



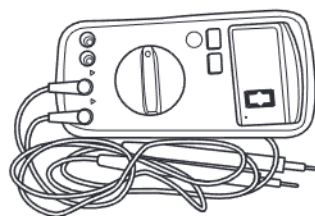
RCH0000065

Piston Ring Remover



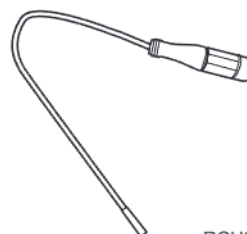
RCH0000066

Digital Multimeter



RCH0000002

Flexional Magnetic Rod



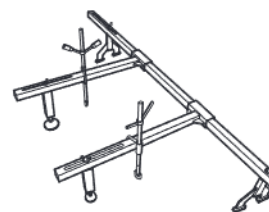
RCH0000042

Engine Hoist



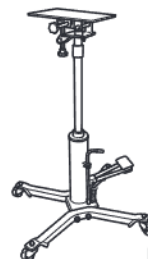
RCH0000043

Engine Equalizer



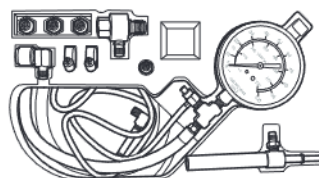
RCH0000026

Transmission Carrier



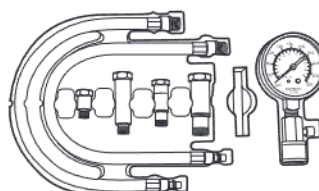
RCH0000005

Fuel System Pressure Tester



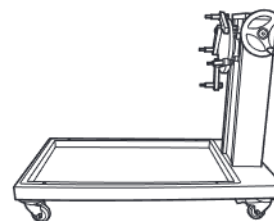
RCH0000048

Cylinder Pressure Gauge



RCH0000044

Engine Service Platform

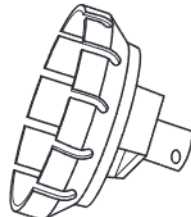


RCH0000057

# SQR477F FUEL SUPPLY SYSTEM

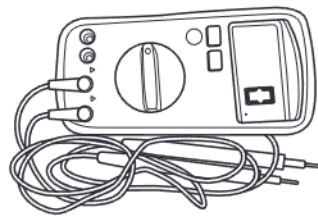
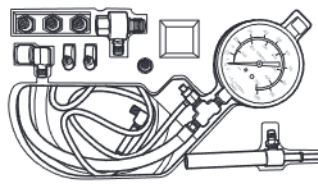
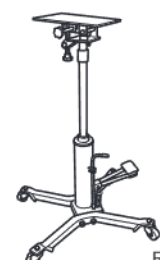
## Tools

### Special Tool

|                                |                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------|
| Fuel Tank Pressure Cap Remover |  <p>RCH0000004</p> |
|--------------------------------|-------------------------------------------------------------------------------------------------------|

03

### General Tools

|                             |                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------|
| Digital Multimeter          |  <p>RCH0000002</p>   |
| Fuel System Pressure Tester |  <p>RCH0000048</p>  |
| Transmission Carrier        |  <p>RCH0000005</p> |

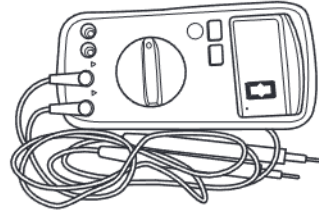
## SQR477F EMISSION CONTROL SYSTEM

### Tool

#### Special Tool

03

Digital Multimeter



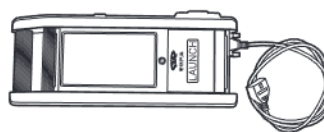
RCH0000002

# SQR477F INTAKE SYSTEM

## Tools

### Special Tool

X-431 3G Diagnostic Tester

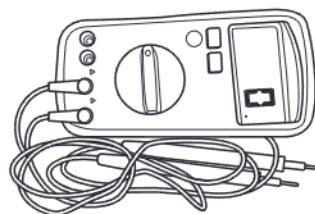


RCH0000001

03

### General Tool

Digital Multimeter



RCH0000002

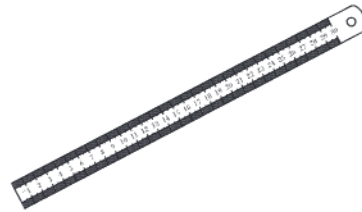
# SQR477F EXHAUST SYSTEM

## Tools

### Special Tools

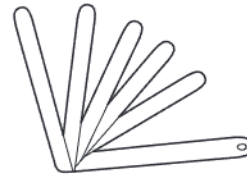
**03**

Precision Ruler



RCH0000063

Feeler Gauge

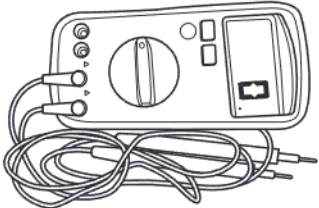
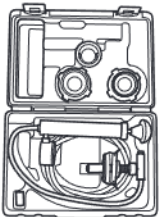
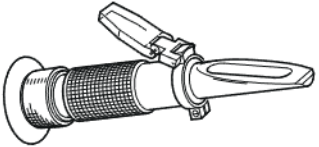


RCH0000060

# SQR477F COOLING SYSTEM

## Tools

### General Tools

|                                |                                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------|
| Digital Multimeter             |  <p>RCH0000002</p>   |
| Cooling System Pressure Tester |  <p>RCH0000055</p>  |
| Freezing Point Tester          |  <p>RCH0000007</p> |

03

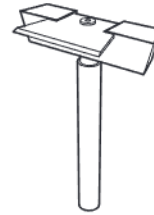
# SQR477F LUBRICATION SYSTEM

## Tools

### Special Tools

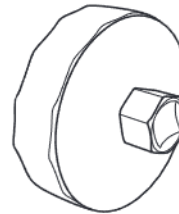
**03**

Oil Pan Remover and Scraper



RCH0000056

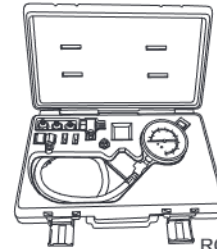
Oil Filter Remover



RCH0000054

### General Tool

Oil Pressure Tester



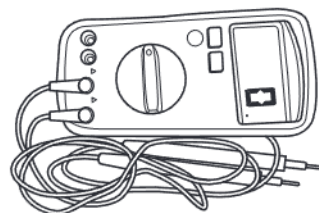
RCH0000006

## SQR477F IGNITION SYSTEM

### Tool

#### General Tool

Digital Multimeter



RCH0000002

03

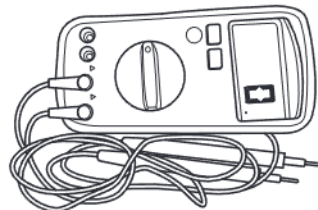
## SQR477F STARTING SYSTEM

### Tool

#### General Tool

03

Digital Multimeter



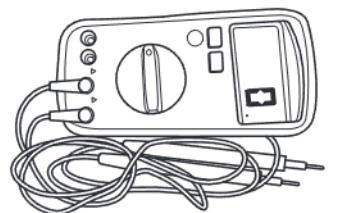
RCH0000002

## SQR477F CHARGING SYSTEM

### Tool

#### General Tool

Digital Multimeter



RCH0000002

03

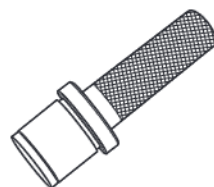
# QR515MHA TRANSMISSION

## Tools

### Special Tools

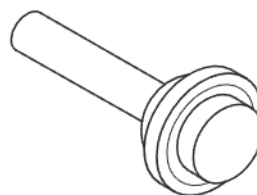
03

Input Shaft Oil Seal Installer



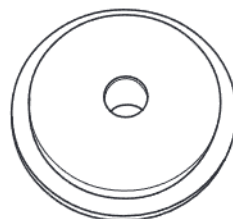
RCH0000008

Differential Oil Seal Installer



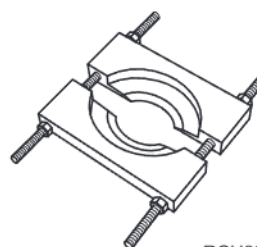
RCH0000009

Installation Joint



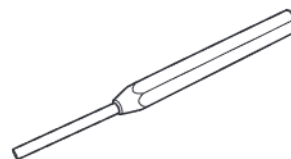
RCH0000010

Bearing Remover



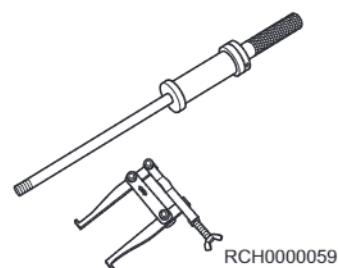
RCH0000011

Punch



RCH0000015

Puller



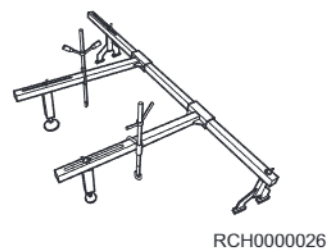
03

## General Tools

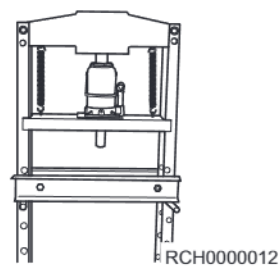
Transmission Carrier



Engine Equalizer



Hydraulic Press



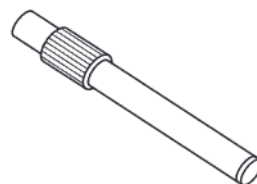
# CLUTCH

## Tools

### Special Tool

03

Clutch Pressure Plate Installer



RCH0000018

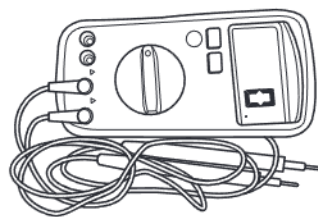
### General Tools

Vernier Caliper



RCH0000019

Digital Multimeter

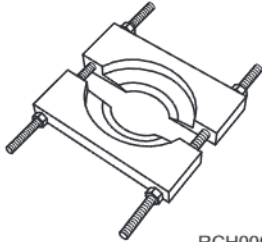
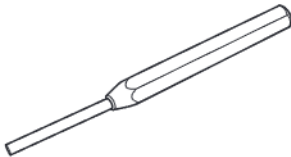


RCH0000002

# DIFFERENTIAL

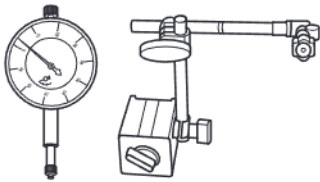
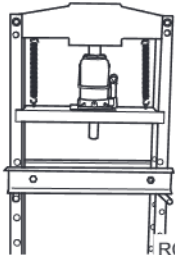
## Tools

### Special Tools

|                 |                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------|
| Bearing Remover | <br>RCH0000011 |
| Punch           | <br>RCH0000015 |

03

### General Tools

|                                    |                                                                                                     |
|------------------------------------|-----------------------------------------------------------------------------------------------------|
| Dial Indicator and Magnetic Holder | <br>RCH0000023  |
| Hydraulic Press                    | <br>RCH0000012 |

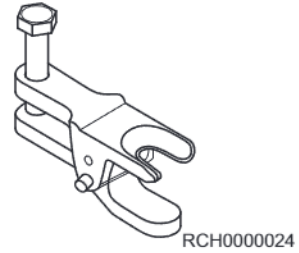
# AXLE

## Tools

### Special Tool

03

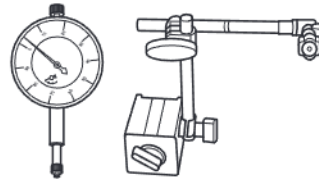
Ball Pin Separator



RCH0000024

### General Tools

Dial Indicator and Magnetic Holder



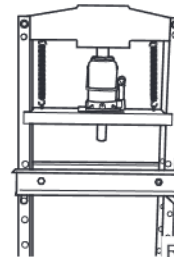
RCH0000023

Transmission Carrier



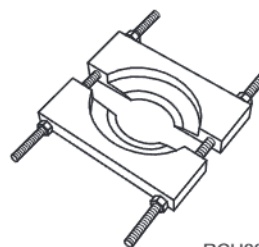
RCH0000005

Hydraulic Press



RCH0000012

Bearing Remover



RCH0000011

Engine Equalizer



RCH0000043

03

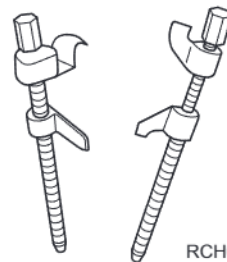
# SUSPENSION

## Tools

### Special Tool

03

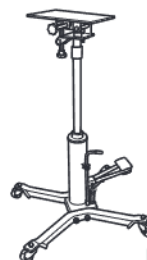
Spring Compressor



RCH0000021

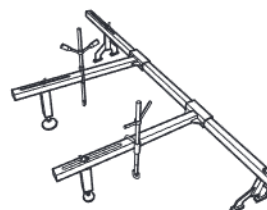
### General Tools

Transmission Carrier



RCH0000005

Engine Equalizer



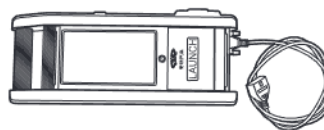
RCH0000026

# BRAKE CONTROL SYSTEM

## Tools

### Special Tool

X-431 3G Diagnostic Tester

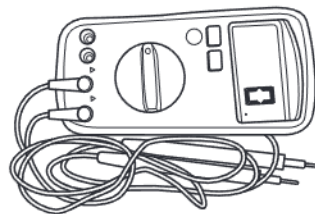


RCH0000001

03

### General Tool

Digital Multimeter



RCH0000002

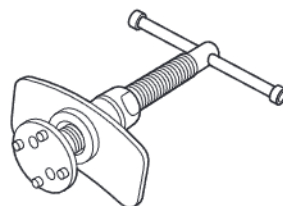
# BRAKE

## Tools

### Special Tool

03

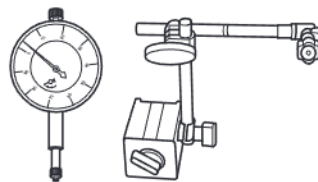
Brake Caliper Piston Pressing Tool



RCH0000053

### General Tools

Dial Indicator and Magnetic Holder



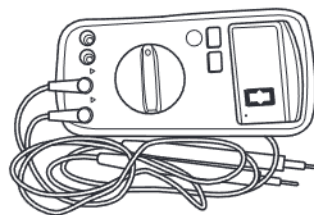
RCH0000023

Vernier Caliper



RCH0000019

Digital Multimeter



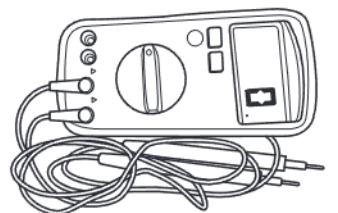
RCH0000002

# PARKING BRAKE

## Tool

### General Tool

Digital Multimeter



RCH0000002

03

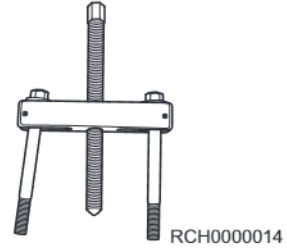
## STEERING COLUMN

### Tools

#### Special Tool

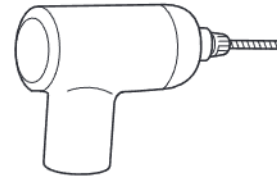
03

Steering Wheel Remover



#### General Tool

Electric Drill

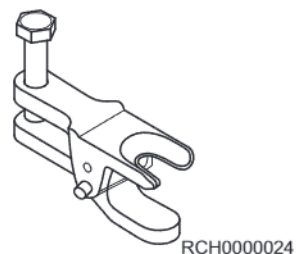


# HYDRAULIC ASSIST STEERING

## Tools

### Special Tool

Ball Pin Separator

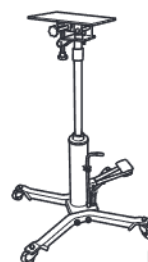


RCH0000024

03

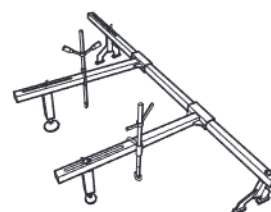
### General Tools

Transmission Carrier



RCH0000005

Engine Equalizer



RCH0000026

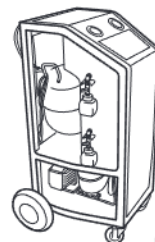
# AIR CONDITIONING

## Tools

### General Tools

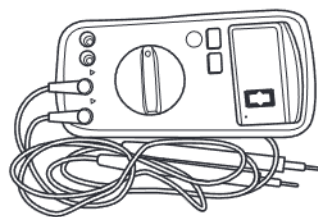
03

Refrigerant Recycling Machine



RCH0000046

Digital Multimeter



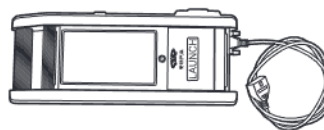
RCH0000002

## SUPPLEMENTAL RESTRAINT SYSTEM

### Tools

#### Special Tool

X-431 3G Diagnostic Tester

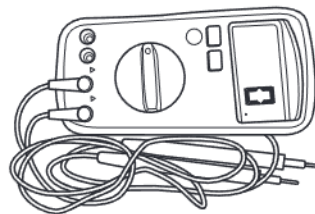


RCH0000001

03

#### General Tool

Digital Multimeter



RCH0000002

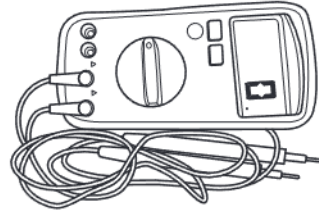
## SEAT BELT

### Tool

#### General Tool

03

Digital Multimeter



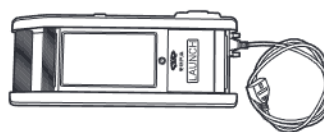
RCH0000002

# LIGHTING SYSTEM

## Tools

### Special Tool

X-431 3G Diagnostic Tester

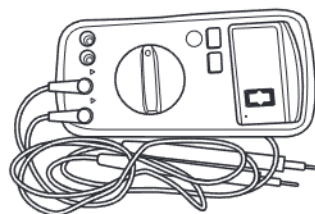


RCH0000001

03

### General Tool

Digital Multimeter



RCH0000002

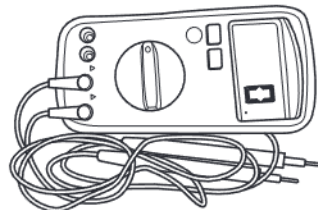
## WIPER AND WASHER

### Tool

#### General Tool

03

Digital Multimeter



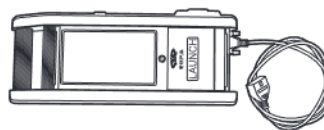
RCH0000002

# DOOR LOCK

## Tools

### Special Tool

X-431 3G Diagnostic Tester

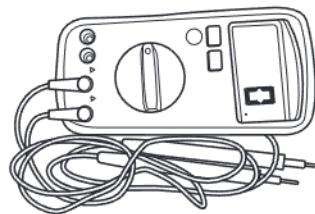


RCH0000001

03

### General Tool

Digital Multimeter



RCH0000002

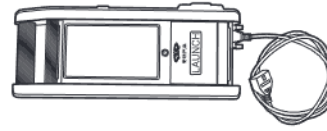
# INSTRUMENT CLUSTER

## Tools

### Special Tool

**03**

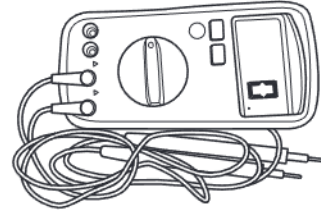
X-431 3G Diagnostic Tester



RCH0000001

### General Tool

Digital Multimeter



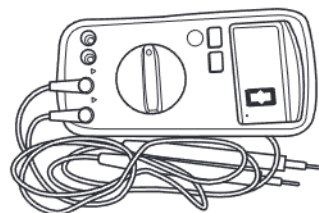
RCH0000002

# AUDIO SYSTEM

## Tool

### General Tool

Digital Multimeter



RCH0000002

03

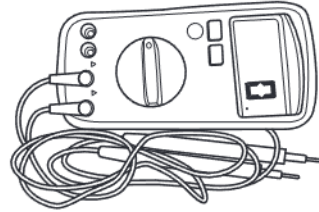
## REVERSING RADAR SYSTEM

### Tool

#### General Tool

03

Digital Multimeter



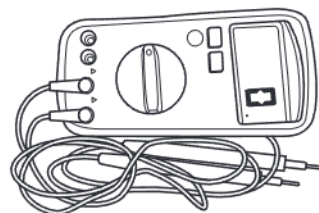
RCH0000002

# HORN

## Tool

### General Tool

Digital Multimeter



RCH0000002

03

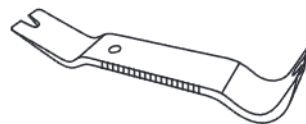
# WINDSHIELD/WINDOW GLASS

## Tools

### Special Tool

**03**

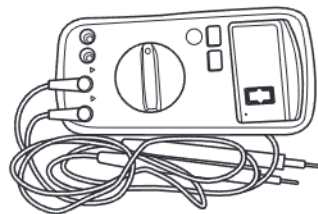
Interior Crow Plate



RCH0000025

### General Tool

Digital Multimeter



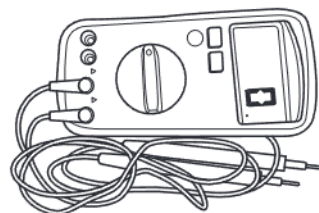
RCH0000002

# REAR VIEW MIRROR

## Tool

### General Tool

Digital Multimeter



RCH0000002

03

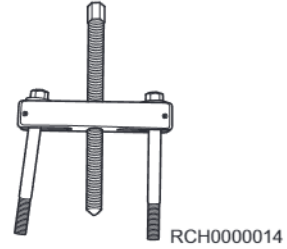
# INSTRUMENT PANEL

## Tools

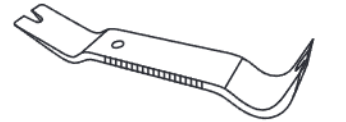
### Special Tools

**03**

Steering Wheel Remover



Interior Crow Plate

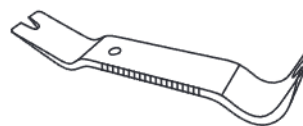


# ENGINE HOOD/DOOR

## Tool

### Special Tool

Interior Crow Plate



RCH0000025

03

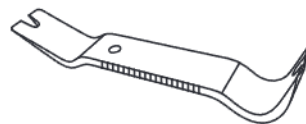
## EXTERIOR

### Tool

### Special Tool

03

Interior Crow Plate



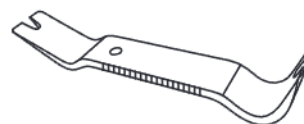
RCH0000025

# INTERIOR

## Tool

### Special Tool

Interior Crow Plate



RCH0000025

03



