Tools for Switch Machines, Switch Layout Hardware and Related Equipment

ASTS USA offers a complete line of generic and special-purpose tools to expedite repairs and adjustment of switch machines and associated switch layout hardware. This includes tools to cover every possible calibration need at the switch machine installation, as well as tools for field or shop repairs. Many of these tools are provided in several types of toolset kits and can be used to service ASTS USA switch machines such as the M-3, M-23 or YM-2000, non-ASTS USA machines and related apparatus such as ASTS USA’s U-5 Circuit Controller.

General Description
ASTS USA provides six different kits for general adjustment and maintenance of switch machines and switch layout apparatus, including:

1. Switch machine repair: Component repair/removal, motor service, gear box maintenance, cover replacement, etc.
2. Kit 1 above plus track wrench set for point detector and lock rod adjustment.
3. Kit 2 above plus mechanical circuit controller adjustment tools.
4. Mechanical circuit controller adjustment tools only (part of Kit 3 above).
5. Track wrench set only (part of Kit 2 above.)
6. Close-Clearance Wrench for Swivel Front Rod Assemblies

In addition to the above kits, ASTS USA provides a 16-piece kit for shop repair and adjustment of most style “M” switch machines (except M-3E, M-23E-A, M-23E-B). This kit contains a variety of general-purpose tools (wrenches, pliers, sockets) as well as ASTS USA special-design tools such as a special pin wrench for clutch housing packing gland handling and a clutch assembly gauge for the hand/motor clutch adjustment.

Specific Kits

Basic Switch Machine Tool Kit (Order No. X49125301)
This kit is provided for essential switch machine repair tasks such as component repair/removal, motor service, gear box maintenance, cover replacement, etc. Tools contained in this kit include:

- 2" Drive Chrome Ratchet - 10" long
- 15-3/4" Breaker Bar
- 10" long Ratchet Extension
- 3/8" x 3-1/4" Long Hex Bit
- 1/2" Drive Socket Set
- Screwdriver - WAGO Narrow Blade
- 1/4" Slotted Screwdriver, 6" long
- 1/2" Slotted Screwdriver, 10" long
- #2 Phillips Screwdriver, 10" long

This RSE Catalog section also lists various ASTS USA-designed special tools developed for field and shop maintenance of other switch machines such as YM-2000, A-10 and DA-10, as well as the U-5 circuit controller. These particular tools are augmented with a variety of general-purpose tools as recommended in the service manuals for each piece of equipment. Refer to or request these service manuals (as shown in the ordering tabulations) when compiling the complete set of tools required for maintenance for a particular piece of equipment. Be sure to contact your ASTS USA Account Executive for any additional information needed to order a tool set or individual tools.
Specific Kits (cont’d)

- Crescent Wrench, 6” long - 15/16” max
- Crescent Wrench, 10” long – 1-5/16” max
- Combination Wrench - 5/16”
- Thin Head Wrench, 1-1/8”
- Hex Key Set, L-Shaped, 13 pc.
- Retriever - Flexible 13-1/2” long
- Feeler Gages – 25-pc set
- Ball Peen Hammer, 12 oz.
- Grease Gun, Mini 3-1/2” Cartridges
- Seater - Brush & Handle (Motor Commutator)
- Terminal Wrench
- Switch Obstruction Gage
- Point Detector Gage
- Canvas Tool Bag
- Strap for Canvas Tool Bag
- Leather Accessory Bag

Basic Switch Machine Tool Kit with Track Wrench Set (Order No. X49125302)
This kit combines Basic Tool Kit X49125301 with two different types of “Track Wrenches”. These wrenches are used for point detector and lock rod adjustments. Kit items include:
- All items in kit X49125301 above, plus:
  - Switch Adjusting Wrench, 2-1/16”
  - Switch Adjusting Wrench, 1-5/16” to 1-11/16”

Basic Switch Machine Tool Kit, Track Wrench Set and Mechanical Circuit Controller Adjusting Tools (Order No. X49125303)
This kit adds to the X49125302 above with set of circuit controller adjustment tools. Items in this kit include:
- All items in kit X49125302 above, plus:
  - 0 -to 12 lb. Spring Scale
  - 0 to 6 lb. Spring Scale
  - Spring Bender (“T” handle)
  - Spring Benders
  - Spring Tension Gage 0 to 5 lb.

Mechanical Circuit Controller Adjustment Tool Kit (Order No. X49125304)
Tools contained in this kit are used for switch machine mechanical circuit controller adjustments such as setting contact pressure and air gaps. Items in this kit include:
- 0 -to 12 lb. Spring Scale
- 0 to 6 lb. Spring Scale
- Spring Bender (“T” handle)
- Spring Benders
- Spring Tension Gage 0 to 5 lb.

Track Wrench Set (Order No. X49125305)
Track wrenches are used for point detector and lock rod adjustments. Kit items include:
- Switch Adjusting Wrench, 2-1/16”
- Switch Adjusting Wrench, 1-5/16” to 1-11/16”

Close-Clearance Wrench for Swivel Front Rod Assemblies (Order No. J49124401)
This ASTS USA custom-designed tool allows the maintainer to turn swivel front rod and basket nuts that are positioned close to the ties and cannot be turned with conventional open-end or box-end wrenches.
Specific Kits (cont’d)

Shop Maintenance and Adjustment Tools for Style “M” Switch Machines (Except M-3E, M-23E-A, M-23E-B) (Order No. X296406001)

- 6” Screw driver, slotted
- 10” Screw driver, slotted
- 6” Slip joint pliers
- 12 oz. machinist hammer, ball peel
- Insulated socket wrench, 1/2”
- 6” Adjustable crescent wrench
- 10” adjustable crescent wrench
- Hex head socket set
- Ratchet wrench, 1/2” drive
- Extension bar, 1/2” drive, 10” long
- Special pin wrench (for clutch housing packing gland)
- Thin-head flat wrench (1-5/32” opening)
- 3/16” hex. Allen-head wrench
- Clutch assembly gauge, (hand/motor clutch)
- Basket Wrench, 2-1/16” open-end
- Box wrench

ASTS USA Service Manual Cross-References

M-23E A and B ........................................................... SM-7100
M-3, M-23A and M23B with MCC* ..................................... SM-6263
M-3, M-23A and M-23B with ECC*/MCU*/EBNC* ..... SM-9662
M-3, M-23A and M-23B Machines with IPD*.............. SM-9671
Low-Profile M-3 ............................................................. SM-6444
A-10 E-P* Switch Machine ........................................ SM-5041
A-5 E-P* Switch Machine ........................................ SM-5044
YM-2000 Switch Machine........................................ SM-6455
DA-10 Switch Machine........................................ SM-5711
T-20/21 Switch Machine........................................ SM-5417
U-5 Circuit Controller........................................ SM-4516
SL-21A Switch Lock ........................................ SM-3225
SL-25 Switch Lock........................................ SM-5466

* MCC – Mechanical Circuit Controller
ECC – Electronic Circuit Controller
MCU – Motor Control Unit
EBNC – Electronic Biased Neutral Controller
IDP – Independant Point Detection
E-P – Electro-Pneumatic
Ordering Information - “M” Series Switch Machine and Layout Tools

- Refer to ordering tabulation for tool kit and individual tool part numbers.
- Only ASTS USA-designed individual tools are listed. Refer to indicated service manual for other general-purpose tools needed for machine installation, repair or adjustment.

<table>
<thead>
<tr>
<th>Order No.</th>
<th>General-Purpose Switch Machine and Layout Tools/Tool Kits (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X49125301</td>
<td>Basic Switch Machine Tool Kit</td>
</tr>
<tr>
<td>X49125302</td>
<td>Basic Switch Machine Tool Kit with Track Wrench Set</td>
</tr>
<tr>
<td>X49125303</td>
<td>Basic Switch Machine Tool Kit, Track Wrench Set and Mechanical Circuit Controller Adjusting Tools</td>
</tr>
<tr>
<td>X49125304</td>
<td>Mechanical Circuit Controller Adjustment Tool Kit</td>
</tr>
<tr>
<td>X49125305</td>
<td>Track Wrench Set</td>
</tr>
<tr>
<td>J49124401</td>
<td>Close Clearance Wrench for Swivel Front Rod Assemblies</td>
</tr>
</tbody>
</table>

Note (1): See description for list of tools contained in kits.

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>N295326</td>
<td>Point Detector Gauge</td>
<td>--</td>
</tr>
<tr>
<td>R439056</td>
<td>T-Shaped Spring Bender Tool</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Note (1): Not applicable to machines with Electronic Circuit Controller.

Tools for Maintaining M-23E-A and M-23E-B Machines

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>X49125305</td>
<td>Track Wrench Set</td>
<td>(1)</td>
</tr>
<tr>
<td>J039000-0134</td>
<td>Thin-Head Screwdriver</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Note 1: See first ordering tab above and text for description.
Note 2: Used to release Wago cage clamp terminals for wire insertion and release.

Special Field/Shop Maintenance Tools for A-10 Machines (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Head Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>M178272</td>
<td>Flat Wrench</td>
<td>1-3/32 in. to 1-1/8 in.</td>
</tr>
<tr>
<td>M178274</td>
<td>Flat Wrench</td>
<td>1-1/4 in. to 1-15/32 in.</td>
</tr>
<tr>
<td>M092292</td>
<td>Switch Adjustment Wrench</td>
<td>2-1/16 in.</td>
</tr>
</tbody>
</table>

Note (1): Request ASTS USA Service Manual SM-5041 for complete list of required general-purpose tools.

Special Field/Shop Tools for A-5 Machines (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N298213</td>
<td>Combination Gauge</td>
</tr>
</tbody>
</table>

Note (1): Request ASTS USA Service Manual SM-5044 for complete list of required general-purpose tools.
## Special Field/Shop Tools for YM-2000 Switch Machines (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N451596-0201</td>
<td>Torque Wrench Adapter (Clutch and Motor Shaft Adjustment)</td>
</tr>
<tr>
<td>N451596-0101</td>
<td>Motor Shaft Adapter (Motor Shaft Adjustment)</td>
</tr>
</tbody>
</table>

Note (1): Request ASTS USA Service Manual SM-6455 for complete list of required general-purpose tools.

## Special Tools for DA-10 Switch Machines (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N372298</td>
<td>Piston Rod Clamp</td>
</tr>
<tr>
<td>M372292</td>
<td>Scraper Installation Tool</td>
</tr>
</tbody>
</table>

Note (1): Request ASTS USA Service Manual SM-5711 for complete list of required general-purpose tools.

## Special Tools for T-20 and T-21 Switch Machines (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>N250289</td>
<td>Point Detector Gauge</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Note (1): Request ASTS USA Service Manual SM-5453 for complete list of required general-purpose tools.

## Special Tools U-5 Circuit Controllers (1)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M230724</td>
<td>Spring Bender for Contact Spring Adjustment</td>
</tr>
</tbody>
</table>


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### Torque Wrench Adapter (YM-2000)
- Order No.: N451596-0201

### Motor Shaft Adapter (YM-2000)
- Order No.: N451596-0101

### Combination Gauge (A-5)
- Order No.: N298213

### Spring Bender M230724 (U-5)

### Piston Rod Clamp N372298 (DA-10)

### Scraper Installation Tool M372292 (DA-10)

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*Notes:*
1. Request ASTS USA Service Manual SM-6455 for complete list of required general-purpose tools.
2. Request ASTS USA Service Manual SM-5711 for complete list of required general-purpose tools.