



**3M™ MS<sup>2</sup>™ Next Generation Modular Splicing  
Rigs and Maintenance Kits**

Simplified Systems For All Your Multi-Pair Splicing Needs

**3M** *Innovation*



# **A Complete System To Meet High-Speed Demands.**

In 1976, 3M™ introduced a series of connector modules to meet the needs of the telecom industry. Today, the demand for high-speed and high-bandwidth networks is greater than ever, and the complete series of 3M connector modules, tools and test equipment has evolved again.

## **NEW DEMANDS IN AN AGE OF INFORMATION.**

Every day, local loop providers work to provide enhanced customer services such as data access with faster Internet transmission, video-on-demand and video conferencing. Many are deploying DSL, ADSL and VDSL over Category 5 into twisted pair copper cable to meet these demands. As new technologies migrate into the local loop, the importance of connections in the embedded plant has increased. Each connection is a potential point of failure in high-bandwidth applications which could require a technician to repair. That is where 3M connector modules make a real difference.



**NEW SOLUTIONS FROM A COMPANY YOU TRUST.**

3M™ MS<sup>2</sup>™ Next Generation Modular System Splicing tools and equipment are easy to use in any kind of splicing operation, regardless of the environment or working conditions.

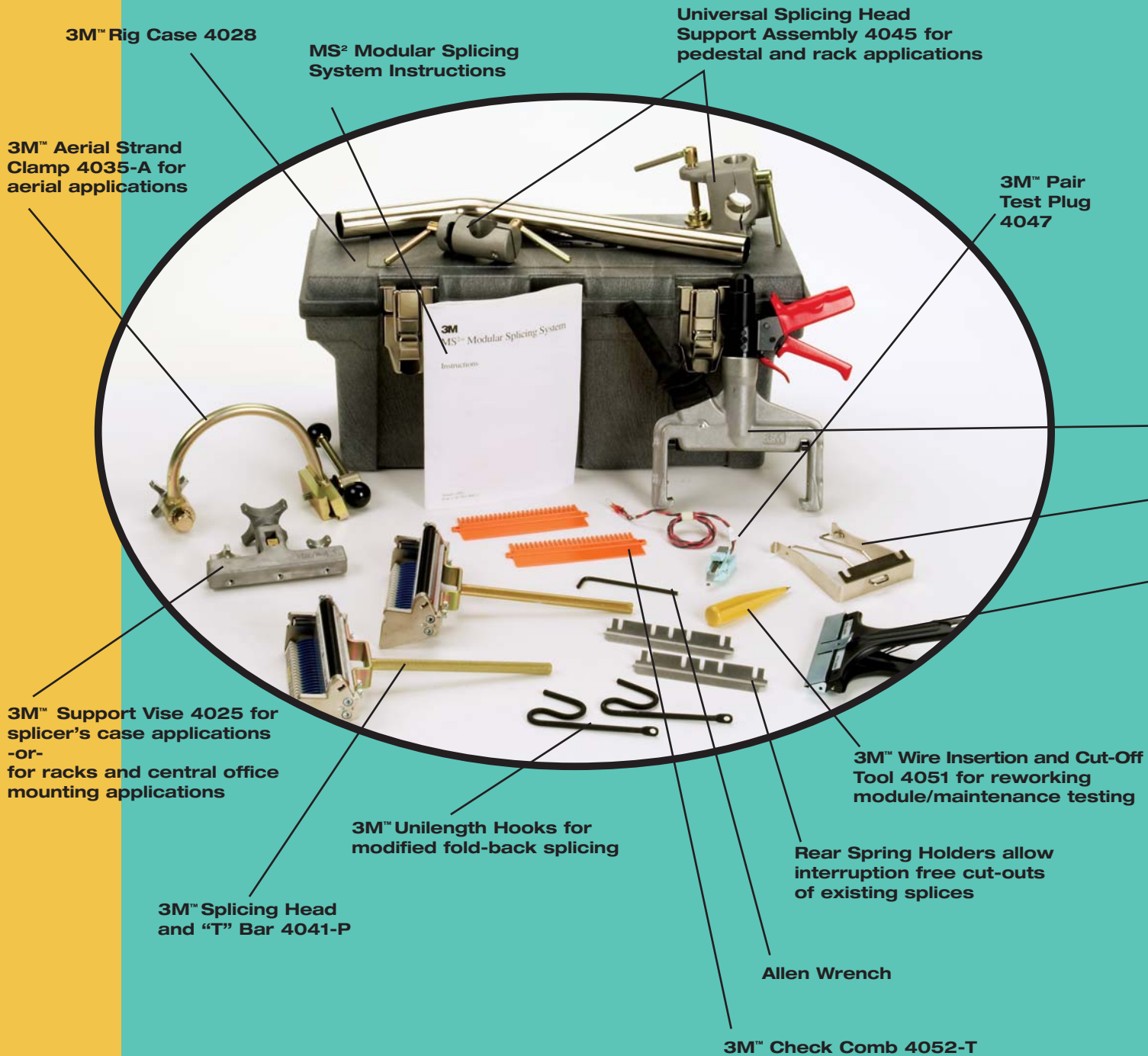
More than 200 tools are available to suit your needs with the reliability you have come to trust from 3M. Detailed step-by-step instructions for every kind of splicing application are included with all test equipment, parts and tools to provide splice integrity. Splicing is simplified and inventories minimized by allowing many jobs to be performed with the same basic components, tool and techniques.

This simplified system means that any of the eight next-generation splicing rigs with MS<sup>2</sup> splicing modules could meet all your multi-pair splicing requirements in inside or outside plant such as new construction, cable rearrangements and maintenance. These procedures are easy to learn and designed to assure both splicing accuracy and good housekeeping.

## WHAT YOU NEED, WHEN YOU NEED IT.

Having exactly the right tools when you're in the field is essential for maximum productivity. With 100 years of experience, 3M knows precisely what you need, and what you don't. Each of our kits is specialized to contain all essential components for your specific application, including buried/underground, aerial, pedestal/cabinet and vault/central office, as well as maintenance splicing applications.

### 3M™ MS<sup>2</sup>™ SPLICING RIG 4045-K/36/FL/NXG



## 3M™ MS<sup>2</sup>™ SPLICING RIG APPLICATIONS

PRODUCT NUMBER FOR KITS	BURIED/ UNDERGROUND	AERIAL	PEDESTAL/ CABINET	VAULT/ CENTRAL OFFICE
4021-M2/36/NXG	●			●
4021-M2/36/TMK/NXG	●	●	●	●
4022-M2/TMK/NXG	●	●	●	●
4022-M2/NXG	●			
4045-K/36/NXG	●	●	●	
4045-K2/36/FL/NXG	●	●	●	
4049/NXG	●		●	

3M™ Hand Crimper 4036-25

3M™ Cross Connect Splicing Head  
Frame Adapter 4044 for quick  
connect modules or PETS

3M™ Separation Tool 4053-PM  
for Super-Mate Modules

## FEATURES AND BENEFITS

3M™ MS <sup>2</sup> ™ Separation Tool 4053-PM	Easily separates DPM modules
Addition of rear spring holders and unilength hooks to all kits	Allows interruption-free cut-outs of existing splices
Extra traverse clamp/head clamp in all double-head set-ups	Increased craft productivity
Extra check comb on all double-head set-ups	Eliminates wiring errors by double-checking tip and ring placement
3M™ MS <sup>2</sup> ™ Support Rig TMK in two kits (replacing the 3M™ MS <sup>2</sup> ™ Split Support Tube 4046)	Allows maximum flexibility in mounting applications for pedestals, racks, manholes, etc.

# 3M™ MS<sup>2</sup>™ Modular Splicing Rigs and Equipment

## 3M™ MS<sup>2</sup>™ SPLICING RIG 4021-M2/36/NXG

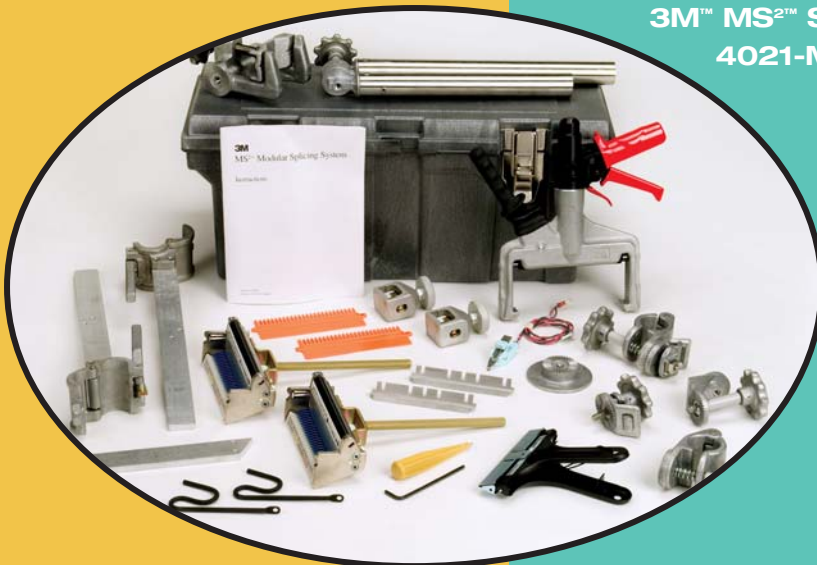


The 4021-M2/36/NXG splicing rig is a complete splicing rig designed for one- or two-person fold-back or inline splicing.

### KIT COMPONENTS:

4028 Rubbermaid Rig Case	1
4036-25 Hand Crimper	1
4040 Splicing Head Assembly Includes:	
4041 Splice Head	2
Pedestal	2
Traverse Clamp Assembly With Long Bar	2
Head Clamp	2
4046 CST(collapsible support tube)	1
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	2
Short Traverse Bar	1
4053-PM Separation Tool	1
Unilength Hooks	2
Rear Spring Holders	2
Allen Wrench	2
Tube Support Extension	1
MS <sup>2</sup> Mod. Splicing System Instructions	1

## 3M™ MS<sup>2</sup>™ SPLICING RIG 4021-M2/36/TMK/NXG



The 4021-M2/36/TMK/NXG splicing rig is a complete splicing rig designed for one- or two-person fold-back or inline splicing. The TMK kit provides maximum mounting flexibility.

### KIT COMPONENTS:

4028 Rubbermaid Rig Case	1
4036-25 Hand Crimper	1
4040 Splicing Head Assembly Includes:	
4041 Splice Head	2
Pedestal	2
Traverse Clamp Assembly With Long Bar	2
Head Clamp	2
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	2
Short Traverse Bar	1
4053-PM Separation Tool	1
Unilength Hooks	2
Rear Spring Holders	2
TMK Kit Includes:	
TMK Base	1
TMK A2 Tool Clamp	1
TMK A4 Tube Clamp	1
TMK A5 Vise	1
TMK A6 Swivel/Knob	1
TMK A3 Swivel Bar	1
TMK A7 Mount	1
TMK 900 Mount	1
Allen Wrench	2
MS <sup>2</sup> Mod. Splicing System Instructions	1

(TMK replaces the 4046 Split Support Tube)

### 3M™ MS<sup>2</sup>™ SPLICING RIG 4022-M2/TMK/NXG

#### KIT COMPONENTS:

4028 Rubbermaid Rig Case	1
4040 Splicing Head Assembly Includes:	
4041 Splice Head	2
Pedestal	2
Traverse Clamp Assembly With Long Bar	2
Head Clamp	2
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	2
Short Traverse Bar	1
4053-PM Separation Tool	1
Unilength Hooks	2
Rear Spring Holders	2
TMK Kit Includes:	
TMK Base	1
TMK A2 Tool Clamp	1
TMK A4 Tube Clamp	1
TMK A5 Vise	1
TMK A6 Swivel/Knob	1
TMK A3 Swivel Bar	1
TMK A7 Mount	1
TMK 900 Mount	1
Allen Wrench	1
MS <sup>2</sup> Mod. Splicing System Instructions	1
(TMK replaces the 4046 Split Support Tube)	



The 4022-M2/TMK/NXG splicing rig is a complete splicing rig designed for one- or two-person fold-back or inline splicing. The TMK kit provides maximum mounting flexibility.

### 3M™ MS<sup>2</sup>™ SPLICING RIG 4022-M2/NXG

#### KIT COMPONENTS:

4028 Rubbermaid Rig Case	1
4040 Splicing Head Assembly Includes:	
4041 Splice Head	2
Pedestal	2
Traverse Clamp Assembly With Long Bar	2
Head Clamp	2
4046 CST (collapsible support tube)	1
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	2
Short Traverse Bar	1
4053-PM Separation Tool	1
Unilength Hooks	2
Rear Spring Holders	2
Allen Wrench	2
Tube Support Extension	1
MS <sup>2</sup> Mod. Splicing System Instructions	1



The 4022-M2/NXG splicing rig is a complete splicing rig designed for one- or two-person fold-back or inline splicing.

# 3M™ MS<sup>2</sup>™ MODULAR SPLICING RIGS AND EQUIPMENT

(continued)

## 3M™ MS<sup>2</sup>™ UNIVERSAL SPLICING RIG 4045-K/36/NXG

(vs. 3M™ MS<sup>2</sup>™ Universal Splicing Rig 4045-K/36)



### KIT COMPONENTS:

4028 Rig Case	1
4036-25 Hand Crimper	1
4041-P Splicing Head and Pedestal	1
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	1
4045 Universal Splicing Head Support Assembly	1
4053-PM Separation Tool	1
Unilength Hooks	1
Rear Spring Holders	1
Allen Wrench	1
MS <sup>2</sup> Mod. Splicing System Instructions	1

The 4045-K/36/NXG universal splicing rig is a versatile rig designed for one-person splicing in difficult-to-reach pedestal or rack areas.

## 3M™ MS<sup>2</sup>™ SPLICING RIG 4045-K2/36/FL/NXG

(vs. 3M™ MS<sup>2</sup>™ Splicing Rig 4045-K/36/FL)



### KIT COMPONENTS:

4028 Rig Case	1
4036-25 Hand Crimper	1
4041-P Splicing Head and Pedestal	2
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	2
4045 Universal Splicing Head Support Assembly	1
4025 Support Vise	1
4035A Strand Clamp	1
4044 Cross Connect Splicing Head Frame Adapter	1
4053-PM Separation Tool	1
Unilength Hooks	2
Rear Spring Holders	2
Allen Wrench	1
MS <sup>2</sup> Mod. Splicing System Instructions	1

The 4045-K/36/FL/NXG splicing rig is a versatile rig designed for one-person splicing. It allows maximum flexibility for difficult-to-reach areas and aerial applications.



**3M™ MS<sup>2</sup>™ SPLICING RIG 4049/NXG**  
(vs. 3M™ MS<sup>2</sup>™ Splicing Rig 4049)

**KIT COMPONENTS:**

4049 Rig Container/Pail	1
4036-H Tool Holster	1
4036-25 Hand Crimper	1
4041-SH Splice Head Holder	1
4041-P Splicing Head and Pedestal	1
4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4052T Tester Check Comb	1
4049 Variable Traverse Brace Assembly	1
4053-PM Separation Tool	1
Unilength Hooks	1
Rear Spring Holders	1
Allen Wrench	1
MS <sup>2</sup> Mod. Splicing System Instructions	1



The 4049/NXG splicing rig is a lightweight and portable splicing rig.

**3M™ MS<sup>2</sup>™ MODULE MAINTENANCE  
KIT 4026-A**

**KIT COMPONENTS:**

4047 Pair Test Plug	1
4051 Wire Insertion and Cut-Off Tool	1
4005-DPM/BTP/JMP Super-Mate Bottom Test Plug Jumper Assembly	2
4005-DPM/36PTJ Preterminated Jumper Assembly	2
4270-A Hand Presser	1
4053-PM Separation Tool	1



The 4026-A module maintenance kit contains the tools necessary for re-entry of Super-Mini and Super-Mate modules. The kit may be used for splice module combinations of two- through seven-way stackable splices.

## 3M™ MS<sup>2</sup>™ RIG ACCESSORIES



**Tool Box with Modified Tray 4028-A**

Durable, easy to transport tool box with tray. 66 x 29.2 x 28.2 cm (26 x 11.5 x 11.1") Cube: 9.8 kg. (21.7 lbs.) Ctn. size: 67.1 x 30 x 58.4 cm (26.4 x 11.8 x 23")



**Air/Hydraulic Crimping Unit 4030**

The 4030 air/hydraulic crimping unit is designed for high-volume module termination and uses air or nitrogen supply. An air cylinder or compressor with output pressure of 5.37kg/cm 21 (90-100 PSI) must be used. The unit is either hand- or foot-operated.



**Hand/Hydraulic Crimping Unit 4031**

The 4031 hand crimping unit is lightweight and hand-operated. When proper crimping pressure is reached, a bypass valve opens.



**Aerial Strand Clamp 4035-A**

The 4035-A strand clamp is designed to hold a 4041-P splicing head in aerial splicing applications. Anchored to the suspension strand, the strand clamps behind and below the splice bundle and can be used with strands from 5 mm (3/16") diameter to 10 mm (3/8").



**Hand Crimper 4036-25**

The 4036-25 hand crimper is a self-contained, pistol-gripped crimper designed to crimp MS<sup>2</sup> modules in the 4041 splicing head.



**Splicing Head Assembly 4040**

This assembly contains a splicing head, a pedestal, a traverse clamp assembly with a long bar, and a head clamp for use with two-man fold-back splicing.



**Splice Head 4041-SPL**

The 4041-SPL splicing head is the standard MS<sup>2</sup> splicing head without any support components.



**Splicing Head and "T" Bar 4041-P**

Additional splicing head and "T" Bar support for use with the MS<sup>2</sup> system.



**Universal Splicing Head Support Assembly 4045-SHSA**

This assembly is designed to hold an MS<sup>2</sup> splicing head so it can be used in all applications.



**Split Support Tube 4046-CST**

Collapsible for easy transport and set up.

## 3M™ MS<sup>2</sup>™ RIG ACCESSORIES

<p><b>Pair Test Plug 4047</b></p>	<p>This plug is a module probe which permits one pair checking without damaging wire insulation. The prongs fit the test entry port of all MS<sup>2</sup> modules. The cord permits easy connection to a talk block or test set.</p>
<p><b>Wire Insertion and Cut-off Tool 4051</b></p>	<p>The 4051 tool is used to terminate individual conductors on MS<sup>2</sup> modules.</p>
<p><b>In-Head Tester Check Comb 4052-T</b></p>	<p>The check comb minimizes the risk of wiring errors by double-checking tip and ring placement prior to crimping.</p>
<p><b>Cover Removal Tool 4053</b></p>	<p>The 4053 cover removal tool is recommended for removing either bases or covers from 25-pair Super-Mini and Super-Mate modules.</p>
<p><b>Separation Tool 4053-PM</b></p>	<p>The only recommended tool to separate 3M™ MS<sup>2</sup> Super-Mate 4005-DPM/TR Modules from any other module. Note: The 4053 cover removal tool cannot be used to separate DPM Modules.</p>
<p><b>Hand Presser 4270-A</b></p>	<p>The 4270-A presser is used to plug up to seven Super-Mate Modules together.</p>
<p><b>Support Rig TMK</b></p>	<p>The TMK support rig allows flexibility in mounting applications for pedestals, racks, manholes, etc.</p>
<p><b>Support Vise 4025</b></p>	<p>The 4025 support vise is used to mount the 4040 splicing head assembly in tight situations.</p>
<p><b>Super-Mini 25-pair Pocket Probe 4048-S</b></p>	<p>Specially designed for use with the MS<sup>2</sup> Super-Mini and Super-Mate Splicing Modules, the 4048-S pocket probe provides access for the identification of cable pairs. The probe has a removable protective pin cover, spring loaded contact pins and spring clips for holding the pins securely in the module. Pins are replaceable.</p>
<p><b>Marking Pens 4039</b></p>	<p>Use the 4039 marking pen for permanent marking for MS<sup>2</sup> modules for easy identification at a later date.</p>



The full-service 3M repair facility can help you with any spare part needs.  
Contact the 3M repair center at 800/426 8688, or online at [www.3MRepair.com](http://www.3MRepair.com).

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### Important Notice

**3M™ MS<sup>2</sup> splicing rigs, tools and modules are engineered to work together to achieve consistently superior performance in the field. Modules from other manufacturers may not meet the tight quality tolerances of 3M modules and may damage the calibration and performance of a 3M rig or tool. Therefore, the published 3M warranty does not extend to any 3M modules spliced in rigs or tools not made by 3M. The warranty on 3M MS<sup>2</sup> splicing rigs and Scotchlok splicing tools can also be voided if used on non-3M modules.**

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