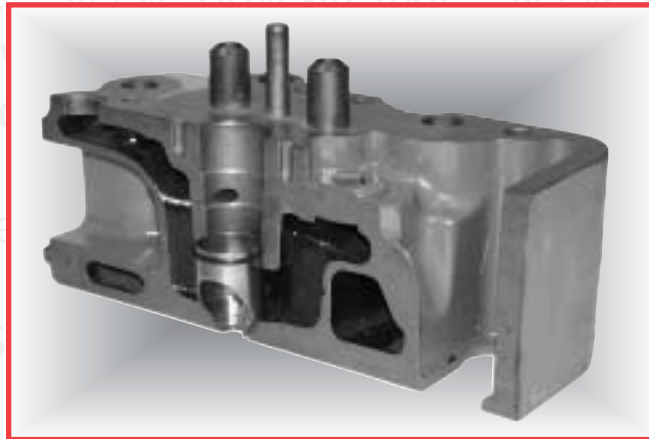


# Diesel Head Repair Catalog



**Tools, Materials & Equipment**

**Irontite by Kwik-Way Inc.**  
**Irontite by Kwik-Way of Canada, Ltd.**

El Monte, California • Marion, Iowa • Cleveland, Ohio • Toronto, Ontario

1-800-423-3384 (West) 1-800-553-5953 (Central) 1-800-821-7520 (East) 1-800-268-3538 (Canada)



# Cummins Diesel Engines

## Casting Seat Repair Tools - SERIES KITS

Assure all the right tools for any series you need. Each series has a kit with tools designed and manufactured specifically for that use. Tools available individually or in the series kit.

### CASTING REPAIR KITS - CUMMINS

DESCRIPTION	Series	PART #
Complete Kit	220	450-6110-22
Complete Kit	250	450-6110-25
Complete Kit	L-10	450-6110-26
Complete Kit	C & J	450-6110-27
Complete Kit	Small V	450-6110-28



Combination Counterbore & Tapered Reamer



Casting Seat Cutter Gauge



Split Sleeve Tap Driver



Tapered Plugs



Drill Bushing



Tapered Tap

### CASTING REPAIR TOOLS - CUMMINS 220

DESCRIPTION	PART #
<b>The Complete 220 Series Kit with Toolbox</b> Kit includes the following:	<b>450-6110-22</b>
Counterbore & Tapered Reamer (carbide)	414-6112-10
Tapered Tap	407-5310-80
7/8" Split Sleeve Tap Driver with #3 MT	449-6933-30
H-Solid Tapered Plugs (5)	452-2610-80
Drill Bushing	414-6113-10
9/16" Tapered Length Drill	414-6113-20
End Facing Counterbore	414-6113-30
Counterbore Pilot	414-6113-40
Seat Cutter Guide Bushing	414-6114-30
Driving Arbor	414-6114-10
Casting Seat Cutter (carbide)	414-6114-26
Casting Seat Cutter Gauge	414-6111-20
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
1/8" Hex Key	467-1611-08

### CASTING REPAIR TOOLS - CUMMINS 250

DESCRIPTION	PART #
<b>The Complete 250 Series Kit with Toolbox</b> Kit includes the following:	<b>450-6110-25</b>
Counterbore & Tapered Reamer (carbide)	414-6112-10
Tapered Tap	407-5310-80
7/8" Split Sleeve Tap Driver with #3 MT	449-6933-30
H-Solid Tapered Plugs (5)	452-2610-80
Drill Bushing	414-6113-12
9/16" Tapered Length Drill	414-6113-20
End Facing Counterbore	414-6113-30
Counterbore Pilot	414-6113-40
Seat Cutter Guide Bushing	414-6114-32
Driving Arbor	414-6114-10
Casting Seat Cutter (carbide)	414-6114-26
Casting Seat Cutter Gauge	414-6111-20
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
1/8" Hex Key	467-1611-08

# Cummins Diesel Engines



## CASTING REPAIR TOOLS - CUMMINS L-10

DESCRIPTION	PART #
<b>The Complete L-10 (and M-11) Series Kit with Toolbox</b> Kit includes the following:	<b>450-6110-26</b>
Counterbore & Tapered Reamer (carbide)	414-6112-10
Tapered Tap	407-5310-80
7/8" Split Sleeve Tap Driver with #3 MT	449-6933-30
H-Solid Tapered Plugs (5)	452-2610-80
Drill Bushing	414-6113-16
9/16" Tapered Length Drill	414-6113-20
End Facing Counterbore	414-6113-30
Counterbore Pilot	414-6113-40
Seat Cutter Guide Bushing	414-6114-36
Driving Arbor	414-6114-10
Casting Seat Cutter (carbide)	414-6114-26
Casting Seat Cutter Gauge	414-6111-26
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
1/8" Hex Key	467-1611-08



End Facing Counterbore



Taper Length Drill



Driving Arbor



Seat Cutter Guide Bushing



Casting Seat Cutter



Gauge Finger

## CASTING REPAIR TOOLS - CUMMINS C & J

DESCRIPTION	PART #
<b>The Complete C &amp; J Series Kit with Toolbox</b> Kit includes the following:	<b>450-6110-27</b>
Counterbore & Tapered Reamer (carbide)	414-6112-10
Tapered Tap	407-5310-80
7/8" Split Sleeve Tap Driver with #3 MT	449-6933-30
H-Solid Tapered Plugs (5)	452-2610-80
Drill Bushing	414-6113-15
1/2" Tapered Length Drill	414-6113-25
End Facing Counterbore	414-6113-30
Counterbore Pilot	414-6113-45
Seat Cutter Guide Bushing	414-6114-35
Driving Arbor	414-6114-10
Casting Seat Cutter (carbide)	414-6114-25
Casting Seat Cutter Gauge	414-6111-25
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
1/8" Hex Key	467-1611-08

## CASTING REPAIR TOOLS - CUMMINS SMALL V

DESCRIPTION	PART #
<b>The Complete Small V Series Kit with Toolbox</b> Kit includes the following:	<b>450-6110-28</b>
Counterbore & Tapered Reamer (carbide)	414-6112-10
Tapered Tap	407-5310-80
7/8" Split Sleeve Tap Driver with #3 MT	449-6933-30
H-Solid Tapered Plugs (5)	452-2610-80
Drill Bushing	414-6113-18
9/16" Tapered Length Drill	414-6113-25
End Facing Counterbore	414-6113-30
Counterbore Pilot	414-6113-45
Seat Cutter Guide Bushing	414-6114-32
Driving Arbor	414-6114-10
Casting Seat Cutter (carbide)	414-6114-25
Casting Seat Cutter Gauge	414-6111-28
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
1/8" Hex Key	468-1611-08

CUMMINS

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TOOLS & SUPPLIES



# Cummins Diesel Engines

## INJECTOR SLEEVES - CUMMINS

DESCRIPTION	SERIES	PART #
Injector Sleeve	220	419-6192-21
Injector Sleeve	250, L-10	419-6192-51
Injector Sleeve (Stainless Steel)	M-11	419-6192-41
Injector Sleeve	C & J	419-6192-71
Injector Sleeve	Small V	419-6192-81
O Rings	250, L-10, Small V	419-6192-52

## 220 SERIES INJECTOR SLEEVES 416-6192-21

These sleeves are used with bores of 4-7/8" and 5-1/8" and include the following:



NHD	180
NHE	195
NH	220
NT	743

## 250 & L-10 SERIES INJECTOR SLEEVES 416-6192-51

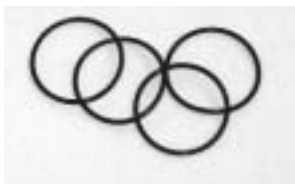
These sleeves are used with bores of 5-1/2" and include the following:



NH	230	NHC	250
NTC	250	SUPER	250
SUPER	250/270	NT	270
NT	280	NTC	290
NT	310	NTC	335
NTC	350	NTC	400
NTA	370	NT	380
NTA	400	NTA	420
NT	855	V	903
VT	903	V-8	265
V	785, 927	VT, N14	1710

L-10, M-11 Series with 5-1/2" bores include the following:

L-10	300	L-10	350
L-10	400	L-10	BC
IV Formula			



O-Rings

## C & J SERIES INJECTOR SLEEVES

416-6192-71

These sleeves are used with bores of 4-1/8" - 4-7/16" and include the following:



JN	130	JNF	130
C	160	CF	160
CR	160	C	175
C	180	C	190
CS	195		
JS	6	JNS	6
JNS	6		

## SMALL V SERIES INJECTOR SLEEVES

416-6192-81

These sleeves are used with bores of 4-5/8" and include the following:



V6	140	V8E	170
V8	185	V	352
V	278	V	470
V	504	V	555
VT	555	V8	210

## SLEEVE REMOVAL TOOLS - CUMMINS

DESCRIPTION	Series	PART #
Complete Kit	220	415-6132-20
Complete Kit	250, L-10	415-6132-50
Complete Kit	C & J	415-6132-70
Complete Kit	Small V	415-6132-80



Mandrel



Tool Body

## SLEEVE REMOVAL TOOLS - CUMMINS

DESCRIPTION	Series	PART #
Mandrel	220, 250, L-10	415-6132-29
Mandrel	C & J, Small V	415-6132-59
Tool Body	220	415-6132-21
Tool Body	250, L-10, Small V (& Komatsu 155/455)	415-6132-51
Tool Body	C & J	415-6132-71

## Cummins Engine Tooling Categories

The tools for heavy duty diesel engines are categorized by the injector sleeve areas:

- 220 Series
- L-10 Series
- Small V Series
- 250 Series
- C & J Series

Select the tools you need or choose the complete kit to assure the right tools for the job.

### SLEEVE INSTALLATION KITS - CUMMINS

DESCRIPTION	Series	PART #
Complete Kit	220	450-6152-20
Complete Kit	250	450-6152-50
Complete Kit	L-10	450-6152-40
Complete Kit	C & J	450-6152-70
Complete Kit	Small V	450-6152-80

### SLEEVE INSTALLATION TOOLS - CUMMINS 220

DESCRIPTION	PART #
<b>The Complete 220 Series Kit with Toolbox</b>	<b>450-6152-20</b>
Kit includes the following:	
Sleeve Drive-in Tool	416-6152-21
Sleeve Roll-in Tool	416-6152-23
Sleeve Seat Cutter Guide Bushing	416-6152-26
Driving Arbor	414-6114-10
Sleeve Seat Cutter	416-6152-27
.060 - .070 Seat Cutter Gauge	416-6152-94
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
.060 - .070 Flat Tip Protrusion Gauge	414-6111-12

### SLEEVE INSTALLATION TOOLS - CUMMINS 250

DESCRIPTION	PART #
<b>The Complete 250 Series Kit with Toolbox</b>	<b>450-6152-50</b>
Kit includes the following:	
Sleeve Drive-in Tool	416-6152-51
Sleeve Roll-in Tool	416-6152-53
Sleeve Seat Cutter Guide Bushing	414-6114-32
Driving Arbor	414-6114-10
Sleeve Seat Cutter	416-6152-27
.060 - .070 Seat Cutter Gauge	416-6152-94
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
.060 - .070 Flat Tip Protrusion Gauge	414-6111-12



Flat Tip Protrusion Gauge



Driving Arbor



Seat Cutter Guide Bushing



Sleeve Drive-in Tool

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TOOLS & SUPPLIES



# Cummins Diesel Engines



Sleeve Roll-in Tool



Sleeve Seat Cutter



Sleeve Seat Cutter Gauge



Gauge Finger

## SLEEVE INSTALLATION TOOLS - CUMMINS M-11

DESCRIPTION	PART #
Sleeve Roll-in Tool	M-11 416-6152-43

## SLEEVE INSTALLATION TOOLS - CUMMINS L-10

DESCRIPTION	PART #
<b>The Complete L-10 Series Kit with Toolbox</b>	<b>450-6152-40</b>
Kit includes the following:	
Sleeve Drive-in Tool	416-6152-61
Sleeve Roll-in Tool	416-6152-53
Sleeve Seat Cutter Guide Bushing	414-6114-36
Driving Arbor	414-6114-10
Sleeve Seat Cutter	416-6152-27
.090 - .100 Seat Cutter Gauge	416-6152-98
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
.090 - .100 Flat Tip Protrusion Gauge	414-6111-19

## SLEEVE INSTALLATION TOOLS - CUMMINS C & J

DESCRIPTION	PART #
<b>The Complete C &amp; J Series Kit with Toolbox</b>	<b>450-6152-70</b>
Kit includes the following:	
Sleeve Drive-in Tool	416-6152-71
Sleeve Roll-in Tool	416-6152-73
Sleeve Seat Cutter Guide Bushing	414-6114-36
Driving Arbor	414-6114-10
Sleeve Seat Cutter	416-6152-77
.050 - .065 Seat Cutter Gauge	416-6152-97
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
.050 - .065 Flat Tip Protrusion Gauge	414-6111-17

## SLEEVE INSTALLATION TOOLS - CUMMINS SMALL V

DESCRIPTION	PART #
<b>The Complete Small V Series Kit with Toolbox</b>	<b>450-6152-80</b>
Kit includes the following:	
Sleeve Drive-in Tool	416-6152-81
Sleeve Roll-in Tool	416-6152-83
Sleeve Seat Cutter Guide Bushing	414-6114-32
Driving Arbor	414-6114-10
Sleeve Seat Cutter	416-6152-87
.110 - .120 Seat Cutter Gauge	416-6152-99
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
.110 - .120 Flat Tip Protrusion Gauge	414-6111-18

## OPTIONAL HEAD SERVICING TOOLS & MATERIALS

- Cylinder Head Grooving Tools
- Leak Detectors
- Special Tools

### CYLINDER HEAD GROOVING TOOL - CUMMINS

- For regrooving the face of the head after resurfacing
- Select from three sizes of pilots - extra tool bits also available

DESCRIPTION	PART #
Complete Tool	418-6191-00
3/8" Pilot	418-6191-11
7/16" Pilot	418-6191-12
1/2" Pilot	418-6191-13
Tool Bit	418-6191-21
Tool Bit for Cummins ST913 Grooving Tool	418-6199-21



Complete Cylinder Head Grooving Tool-Cummins

### OTHER TOOLS AND MATERIALS - CUMMINS

DESCRIPTION	SERIES	PART #
Roll-in Tool Tension Spring Unit	250	416-6153-60
1" Parallels (Pair)		414-6111-40
Torque Wrench Adapter		417-6152-24



1" Parallels

### LEAK DETECTOR - CUMMINS

DESCRIPTION	SERIES	PART #
Leak Detector	220	417-6172-20
Leak Detector	250, Small V	417-6172-50
Leak Detector	L-10	417-6172-60
Leak Detector	C & J	417-6172-70



Torque Wrench Adapter



# Komatsu Diesel Engines



Combination Counterbore  
& Tapered Reamer



Tapered Tap



Tapered Plugs



Split Sleeve Tap Driver



Drill Bushing



Taper Length Drill



Driving Arbor



End-Facing Counterbore

## Komatsu Repair Tools and Supplies

The tools for heavy duty diesel engines are categorized by the injector sleeve areas :

- 155-4, 355-4
- 110
- 125
- 170

Tools are available individually or as a kit for each series.

## CASTING SEAT REPAIR TOOLS - KOMATSU

DESCRIPTION	SERIES	PART #
<b>The Complete 155-4, 355-4 Series Kit with Toolbox</b>		<b>451-6210-55</b>
Kit includes the following:		
Counterbore & Tapered Reamer	155-4, 355-4	414-6112-10
Tapered Tap	155-4, 355-4	407-5310-80
7/8" Split Sleeve Tap Driver #3MT	155-4, 355-4	449-6933-30
H-Solid Tapered Plugs (5)	155-4, 355-4	452-2610-80
Drill Bushing	155-4, 355-4	421-6213-25
Taper Length Drill	155-4, 355-4	421-6213-55
End Facing Counterbore	155-4, 355-4	414-6113-30
Counterbore Pilot	155-4, 355-4	421-6213-40
Guide Bushing	155-4, 355-4	421-6214-35
Driving Arbor	155-4, 355-4	414-6114-10
Casting Seat Cutter	155-4, 355-4	421-6214-20
Seat Cutter Gauge	155-4, 355-4	421-6211-25
Gauge Handle	155-4, 355-4	414-6111-30
Gauge Finger	155-4, 355-4	433-6991-00
1/8" Hex Key	155-4, 355-4	467-1611-08



# Komatsu Diesel Engines



## Komatsu Sleeve Removal and Installation Tools

Specially designed for the series listed. Each tool is available individually or as part of a kit.

### SLEEVE INSTALLATION KITS - KOMATSU

DESCRIPTION	Series	PART #
Complete Kit	155-4, 355-4	451-6251-00
Complete Kit	110	422-6231-00
Complete Kit	125	422-6241-00
Complete Kit	170	451-6271-00

### SLEEVE REMOVAL AND INSTALLATION - KOMATSU 155-4 & 355-4

DESCRIPTION	PART #
<b>The Complete 155-4, 355-4 Series Kit with Toolbox</b> Kit includes the following:	<b>422-6251-00</b>
Complete Tool *Includes Tool Body & Mandrel	420-6232-50
* Tool Body	415-6132-51
* Tool Mandrel	422-6232-59
Sleeve Drive-in Tool	422-6252-51
Sleeve Roll-in Tool - Standard	422-6252-53
Guide Bushing	422-6252-56
Sleeve Seat Cutter	422-6252-57
Sleeve Seat Cutter Gauge	422-6252-95
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
Flat Tip Protrusion Gauge	422-6211-15

### SLEEVE REMOVAL AND INSTALLATION - KOMATSU 110]

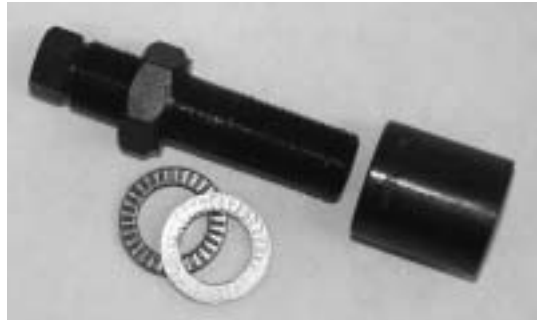
DESCRIPTION	PART #
<b>The Complete 110 Series Kit with Toolbox</b> Kit includes the following:	<b>422-6231-00</b>
Tap (25mm X 1.5mm)	422-6241-10
Sleeve Remover	422-6241-20
Sleeve Drive-in Tool	422-6241-25
Sleeve Tip Roll-in Tool	422-6244-43
Stud (2)	422-6244-45
Allen Nut (2)	422-6244-46
Roll-in Tool	422-6242-43
Guide Bushing	422-6242-55
Sleeve Seat Cutter	422-6242-66
Sleeve Seat Cutter Gauge	422-6242-70
Flat Tip Protrusion Gauge (.031 - .067)	422-6242-71
Flat Tip Protrusion Gauge (.051 - .087)	422-6242-72
3/8" Leveling Pilot	438-6611-42
.385" Leveling Pilot	438-6611-43
13/32" Leveling Pilot	438-6611-44
7/16" Leveling Pilot	438-6611-45



Sleeve Drive-in Tool



Sleeve Roll-in Tool



Sleeve Remover



Leveling Pilot



Flat Tip Protrusion Gauge

CUMMINS

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TOOLS & SUPPLIES



# Komatsu Diesel Engines



Guide Bushing



Sleeve Seat Cutter Gauge



Special Sleeve Tip Roll-in Tool with thrust drive & tip cage with rollers



Sleeve Seat Cutter



Long, Thin Roll-in Tool



Injector Sleeve



Sleeve Nose Roll-in Tool

## SLEEVE REMOVAL AND INSTALLATION TOOLS - KOMATSU 125

DESCRIPTION	PART #
<b>The Complete 125 Series Kit with Toolbox</b>	<b>422-6241-00</b>
Kit includes the following:	
Special Tap	422-6241-10
Sleeve Remover	422-6241-20
Sleeve Drive-in Tool	422-6241-25
Special Sleeve Tip Roll-in Tool with thrust drive & tip cage with rollers	422-6244-43
10mm Socket Cap Screw (2)	422-6244-44
Standard Sleeve Roll-in Tool	422-6242-43
Guide Bushing	422-6242-56
Sleeve Seat Cutter	422-6242-66
Seat Cutter Gauge (T.P. .132 - .167)	422-6242-68
Seat Cutter Gauge (T.P. .193 - .224)	422-6242-69
Gauge Handle (2)	414-6111-30
Gauge Finger	433-6991-00

## SLEEVE REMOVAL AND INSTALLATION TOOLS - KOMATSU 170

DESCRIPTION	PART #
<b>The Complete 170 Series Kit with Toolbox</b>	<b>451-6271-00</b>
Kit includes the following:	
1/4" Piloted Tap	424-6271-10
Removal Tool with Puller Screw, Cup & Nut	424-6271-20
Driving Arbor	414-6114-10
Sleeve Drive-in Tool	424-6271-30
Sleeve Nose Roll-in Tool	424-6271-40
Long, Thin Roll-in Tool	424-6271-50
Standard Roll-in Tool	424-6271-60
Guide Bushing	424-6272-10
Sleeve Seat Cutter	424-6272-27
Cutter Gauge	424-6272-95
Gauge Handle	414-6111-30
Gauge Finger	433-6991-00
Flat Tip Protrusion Gauge	424-6273-11

## INJECTOR SLEEVES - KOMATSU

DESCRIPTION	SERIES	PART #
Injector Sleeve	155-4, 355-4	423-6291-55
Injector Sleeve	105, 110, 125	423-6291-05
Injector Sleeve	170	423-6291-70

## GM-Detroit Diesel Injector Seat Area Tools

Designed for rebuilding the injector seat areas of the following GM-Detroit Diesel engine heads:

- 53                      • 71                      • 92
- 50                      • 60

Ideal for:

- repairing cracks that develop in the injector area
- rebuilding the injector area due to successive resurfacing of the face of the head

Each of the tools needed for a series are available individually or in a Kit.



Combination Counterbore & Tapered Reamer



Tapered Tap



Tap Driver



Tapered Plugs



Injector Hole Countersink



End-Facing Counterbore

## CASTING REPAIR KITS - GM-DIESEL

DESCRIPTION	Series	PART #
Complete Kit	53, 71, 92	451-6410-00
Complete Kit	50, 60	451-6470-00

## CASTING INJECTOR SEAT REPAIR - GM-DIESEL

DESCRIPTION	SERIES	PART #
<b>The Complete 53, 71, 92 Series Kit with Toolbox</b>		<b>451-6410-00</b>
Kit includes the following:		
Counterbore & Tapered Reamer (carbide)	53, 71, 92	425-6412-10
Tapered Tap	53, 71, 92	407-5307-80
7/8" Tap Driver #3MT	53, 71, 92	449-6933-30
G-Solid Tapered Plugs (5)	53, 71, 92	452-2607-80
Taper Length Drill (13/32 HSS)	53, 71, 92	425-6413-20
Drill Bushing	53, 71, 92	425-6413-10
End Facing Counterbore	53, 71, 92	425-6413-30
Counterbore Pilot	53, 71, 92	425-6413-40
GMC Countersink	53, 71, 92	425-6414-50
Guide Bushing	53, 71, 92	425-6414-30
Driving Arbor	53, 71, 92	414-6114-10
Casting Seat Cutter (carbide)	53, 71, 92	425-6414-20
Seat Cutter Gauge	53, 71, 92	425-6411-20
Gauge Handle	53, 71, 92	425-6111-30
Gauge Finger	53, 71, 92	433-6991-00
1/8" Hex Key	53, 71, 92	467-1611-08

CUMMINS

KOMATSU

GM-DETROIT DIESEL

CATERPILLAR

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TOOLS & SUPPLIES



# GM-Detroit Diesel Engines



Drill



Gauge Finger



Guide Bushing



Drill Bushing



Counterbore Pilot



Casting Seat Cutter

## CASTING INJECTOR SEAT REPAIR - GM-DIESEL

DESCRIPTION	SERIES	PART #
<b>The Complete 50, 60 Series Kit with Toolbox</b>		<b>451-6470-00</b>
Kit includes the following:		
5/8" Pilot Drill	50, 60	433-6470-79
Counterbore & Tapered Reamer	50, 60	414-6112-10
"H" Tap	50, 60	407-5310-80
7/8" Tap Driver #3MT	50, 60	449-6933-30
Tapered Plugs - "H" (5)	50, 60	452-2610-80
Drill Bushing	50, 60	433-6470-80
8" Long 13/32" Drill	50, 60	433-6470-82
1-3/16" Counterbore Cutter	50, 60	414-6113-30
13/32" Pilot	50, 60	425-6413-40
Casting Countersink	50, 60	425-6414-50
Guide Bushing	50, 60	433-6470-83
Driving Arbor	50, 60	414-6114-10
Casting Seat Cutter	50, 60	433-6470-84
Casting Seat Cutter Gauge	50, 60	433-6470-85
Gauge Handle	50, 60	414-6111-30
Gauge Finger	50, 60	433-6991-00
1/8" Hex Key	50, 60	467-1611-08

## GM-Detroit Diesel Water Director Replacement

For some of the 71 and early 92 series engines, it is necessary to replace the larger 2-piece director with a smaller, one-piece director.

## WATER DIRECTOR REPLACEMENT - GM-DIESEL

DESCRIPTION	SERIES	PART #
G-Overize Tap	71, 92	407-5308-40
Special Size Drilled Plug	71, 92	452-2608-55
End Facing Counterbore	71, 92	425-6413-30
Counterbore Pilot	71, 92	426-6490-95
Installation Tool	71, 92	425-6491-00
One-Piece Water Directors	71, 92	426-6491-50

# GM-Detroit Diesel Engines



## GM-Detroit Diesel Sleeve Removal and Installation Tools

For removing and installing new injector sleeves for:

- 53                      • 71                      • 92
- 50                      • 60                      • 8.2

Specially designed for the series listed. Available individually or in a kit.



Sleeve Removal Tool



Flaring Stud

### SLEEVE INSTALLATION KITS - GM-DIESEL

DESCRIPTION	Series	PART #
Complete Kit	53, 71, 92	451-6461-00
Complete Kit	8.2	451-6481-00
Complete Kit	50, 60	451-6471-00

### SLEEVE REMOVAL AND INSTALLATION TOOLS - GM-DIESEL

DESCRIPTION	SERIES	PART #
<b>The Complete 53, 71, 92 Series Kit with Toolbox</b>		<b>451-6461-00</b>
Kit includes the following:		
Sleeve Removal Tool	53, 71, 92	427-6462-10
Injector Hole Countersink	53, 71, 92	425-6414-50
Sleeve Installing Tool - Standard*	53, 71, 92	427-6462-50
*Pilot (included with Install Tool)	53, 71, 92	427-6462-60
Dowel Pin	53, 71, 92	427-6462-65
Tip Reamer	53, 71, 92	427-6463-00
Flaring Stud	53, 71, 92	427-6463-10
End Facer	53, 71, 92	427-6464-10
Sleeve Seat Cutter (Carbide)	53, 71, 92	427-6464-50
Sleeve Seat Cutter Gauge	53, 71, 92	427-6464-55
Gauge Handle	53, 71, 92	414-6111-30
Gauge Finger	53, 71, 92	433-6991-00
1/8" Hex Key	53, 71, 92	467-1611-08



Sleeve Installing Tool - Standard



Sleeve Installing Tool - Alternate

### OPTIONAL TOOLS AND SUPPLIES - GM-DIESEL

Alternate Sleeve Install. Tool with No-Stretch Adjustable Stop Nut with Pilot (427-6462-60)	53, 71, 92	428-6462-55
Optional Sleeve Body Reamer	53, 71, 92	429-6463-50
Pilot	53, 71, 92	429-6463-51
Reamer	53, 71, 92	429-6463-55
Seat Cutter for Thicker Sleeves	53, 71, 92	429-6464-52



Sleeve Seat Cutter

### INJECTOR SLEEVES & O RINGS - GM-DIESEL

Injector Sleeve	53, 71, 92	430-6495-31
Heavy Duty Sleeves	53, 71, 92	430-6495-71
Buna O Rings	53, 71	430-6495-32
Viton O Rings	53, 71, 92	430-6495-33



Tip Reamer

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# GM-Detroit Diesel Engines



Sleeve Seat Cutter



Sleeve Seat Cutter Gauge



Optional Sleeve Body Reamer



End Facer



Injector Sleeve with O Ring

## SLEEVE REMOVAL AND INSTALLATION TOOLS - GM-DIESEL

DESCRIPTION	SERIES	PART #
<b>The Complete 8.2 Series Kit with Toolbox</b>		<b>451-6481-00</b>
Kit includes the following:		
Sleeve Removal Tool	8.2	427-6462-10
Button Hook Pick	8.2	431-6482-12
Sleeve Installation Tool	8.2	431-6482-50
Sleeve Tip Expander	8.2	431-6483-10
Driver for Tip Reamer	8.2	431-6483-05
Sleeve Tip Reamer	8.2	431-6483-00
Sleeve End Facer	8.2	427-6464-10
Seat Cutter (Carbide)	8.2	431-6484-50
Seat Cutter Gauge	8.2	431-6484-55
Gauge Handle	8.2	414-6111-30
Gauge Finger	8.2	433-6991-00
Flat Tip Protrusion Gauge	8.2	431-6481-82
3/32" Hex Key	8.2	467-1611-06

## INJECTOR SLEEVES & O RINGS - GM-DIESEL

Injector Sleeve	8.2	432-6498-35
Viton O Rings	8.2	431-6498-33

## SLEEVE REMOVAL AND INSTALLATION TOOLS - GM-DIESEL

DESCRIPTION	SERIES	PART #
<b>The Complete 50, 60 Series Kit with Toolbox</b>		<b>451-6470-00</b>
Kit includes the following:		
Sleeve Removal Tool	50, 60	427-6462-10
Sleeve Installation Tool (w/Pilot*)	50, 60	433-6472-50
*Pilot	50, 60	427-6462-60
Flaring Stud	50, 60	427-6463-10
Driver for Tip Reamer	50,60	433-6474-40
Tip Reamer	50, 60	433-6463-55
Sleeve End Facer	50, 60	427-6464-10
Guide Bushing Assembly	50, 60	433-6474-30
Driving Arbor	50, 60	414-6114-10
Sleeve Seat Cutter (Carbide)	50, 60	433-6474-50
Sleeve Seat Cutter Gauge	50, 60	433-6476-55
Gauge Handle	50, 60	414-6111-30
Gauge Finger	50, 60	433-6991-00
Tip Protrusion Gauge	50, 60	433-6474-60

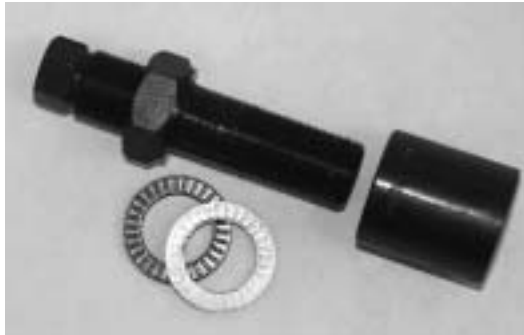
## INJECTOR SLEEVES & O RINGS - GM-DIESEL

Injector Sleeve with O Ring	50, 60	433-6475-31
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## Caterpillar Sleeve Removal and Installation Tools

For removing and installing new injector sleeves. Specially designed for the series listed.

Select the individual tools or choose the kit to assure all the right tools for the job.



Sleeve Removal Tool

### SLEEVE REMOVAL AND INSTALLATION TOOLS - CATERPILLAR

DESCRIPTION	SERIES	PART #
Complete Kit	3114, 3116, 3126	451-6551-00
Complete Kit	3176, 3196	451-6571-00



Sleeve Clamp



Plug Tap

### SLEEVE REMOVAL AND INSTALLATION TOOLS - CATERPILLAR

DESCRIPTION	SERIES	PART #
<b>The Complete 3114, 3116, 3126 Series Kit with Toolbox</b>		<b>451-6551-00</b>
Kit includes the following:		
Sleeve Clamp	3114, 3116, 3126	437-6551-15
Plug Tap (1-3/16"-12)	3114, 3116, 3126	437-5331-36
Plug Tap Guide Bushing	3114, 3116, 3126	437-6551-40
Sleeve Removal Tool	3114, 3116, 3126	437-6552-30
Sleeve Hammer Tool Assembly	3114, 3116, 3126	437-6995-25
Tip Expander	3114, 3116, 3126	437-6551-21
Tip Expander Driver	3114, 3116, 3126	437-6551-25
Sleeve Roll-in Tool	3114, 3116, 3126	437-6551-43
Sleeve Seat Cutter	3114, 3116, 3126	437-6553-56
Seat Cutter Guide Bushing	3114, 3116, 3126	437-6553-66



Plug Tap Guide Bushing



Tip Expander

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# Caterpillar Diesel Engines



Tip Expander Driver



Sleeve Roll-in Tool



Sleeve Seat Cutter



Seat Cutter Guide Bushing

## SLEEVE REMOVAL AND INSTALLATION TOOLS - CATERPILLAR

DESCRIPTION	SERIES	PART #
<b>The Complete 3176, 3196 Series Kit with Toolbox</b>		<b>451-6571-00</b>
Kit includes the following:		
Sleeve Clamp	3176, 3196	437-6551-15
Plug Tap (1-7/16"-12)	3176, 3196	437-5331-28
Plug Tap Guide Bushing	3176, 3196	437-6571-30
Threaded Sleeve Removal Tool	3176, 3196	437-6571-80
Sleeve Removal Mandrel	3176, 3196	437-6571-50
Sleeve Drive-in Tool	3176, 3196	437-6572-10
Sleeve Hammer Tool Assembly	3176, 3196	437-6995-25
Tip Expander	3176, 3196	437-6574-10
Tip Expander Driver	3176, 3196	437-6574-00
Sleeve Roll-in Tool	3176, 3196	437-6571-43
Sleeve Seat Cutter	3176, 3196	437-6574-50
Sleeve Seat Cutter Guide Bushing	3176, 3196	437-6574-20



Sleeve Hammer Tool Assembly

### Tools and Equipment Not Listed:

For Casting Repair or Removal and Installation tools not listed, call the factory or sales offices for information on parts and availability.



# Mack Diesel Engines



## Mack Casting Seat Repair Tools -

Assure all the right tools for the repair of the injector seat area castings of 2-valve engines.

Tools are available individually and as a complete set for:

- 673, 675, 676: 6 Cylinder, 2-Valve

## CASTING SEAT REPAIR TOOLS - MACK

DESCRIPTION	SERIES	PART #
<b>The Complete 2-Valve Engine Kit with Toolbox</b>		<b>451-6610-00</b>
Kit includes the following:		
Leveling Guide Bushing	2-Valve	441-6611-35
Hold Down Clamp	2-Valve	438-6611-50
3/8" Leveling Pilot	2-Valve	438-6611-42
.385" Leveling Pilot	2-Valve	438-6611-43
13/32" Leveling Pilot	2-Valve	438-6611-44
7/16" Leveling Pilot	2-Valve	438-6611-45
Tapered "G" Reamer	2-Valve	407-5207-80
Tapered "G" Tap	2-Valve	407-5307-80
Tapered "G" Plugs (5)	2-Valve	452-2607-80
7/8" Split Sleeve Tap Driver #3MT	2-Valve	449-6933-30
Drill Bushing	2-Valve	438-6613-12
"W" Taper Length Drill	2-Valve	438-6613-20
13/16" Straight Shank Counterbore	2-Valve	438-6613-30
Stop Collar	2-Valve	439-6613-50
1/8" Hex Wrench	2-Valve	467-1611-08
Kit includes one of the Following Drills:		
Straight Shank Piloted Drill	2-Valve	438-6612-55
Morse Taper Piloted Drill	2-Valve	438-6612-65

## HEAD GROOVING TOOL - MACK

DESCRIPTION	PART #
Complete Tool*	444-6691-00
* Including Tool Bit	445-6697-26

## HEAD GROOVING TOOL, TOOL BITS - MACK

DESCRIPTION	PART #
Tool Bits	E9, EM400, EM998: 8 Cyl.-4 Valve 444-6697-25
Tool Bits	673, 675, 676: 6 Cyl.-2 Valve 445-6697-26
Tool Bits	E6, EM300, EM350: 6 Cyl.-4 Valve 445-6697-26
Tool Bits	E7 - 250 & 425 H.P.: 6 Cyl.-4 Valve 445-6697-27
Tool Bits	865, 866: 8 Cyl.-2 Valve 445-6697-28



Leveling Guide Bushing



Leveling Pilot



Tap



Split Sleeve Tap Driver



Taper Length Drill



Drill Bushing



Grooving Tool



Tool Bits

## Tools and Equipment Not Listed:

For Casting Repair or Removal and Installation tools not listed, call the factory or sales offices for information on parts and availability.

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# Navistar/International Diesel Engines



Removal Tool



Drive-in Tool



Roll-in Tool



Installation Tool



Injector Sleeves

## Tools and Equipment Not Listed:

For Casting Repair or Removal and Installation tools not listed, call the factory or sales offices for information on parts and availability.

### SLEEVE REMOVAL AND INSTALLATION TOOLS - NAVISTAR/INT'L

DESCRIPTION	SERIES	PART #
Complete Kit	179, 239, 259	451-6723-00
Complete Kit	466, 360, 414, 436	451-6743-00
Complete Kit	7.3 PowerStroker, 466E	451-6773-00

### SLEEVE REMOVAL AND INSTALLATION TOOLS - NAVISTAR/INT'L

DESCRIPTION	SERIES	PART #
<b>The Complete 179, 239, 259 Series Kit with Toolbox</b>		<b>451-6723-00</b>
Kit includes the following:		
Removal Tool	179, 239, 259	447-6724-30
Drive-in Tool	179, 239, 259	447-6722-10
Roll-in Tool	179, 239, 259	447-6722-43

### SLEEVE REMOVAL AND INSTALLATION TOOLS - NAVISTAR/INT'L

DESCRIPTION	SERIES	PART #
<b>The Complete 466, 360, 414, 436 Series Kit with Toolbox</b>		<b>451-6743-00</b>
Kit includes the following:		
Removal Tool	466	448-6744-30
Drive-in Tool	466	448-6742-10
Roll-in Tool	466	448-6742-43

### SLEEVE REMOVAL AND INSTALLATION TOOLS - NAVISTAR/INT'L

DESCRIPTION	SERIES	PART #
<b>The Complete 7.3 PowerStroker, 466E Series Kit with Toolbox</b>		<b>451-6773-00</b>
Kit includes the following:		
Removal Tool	7.3, 466E	448-6774-30
Installation Tool	7.3, 466E	448-6772-10

### INJECTOR SLEEVES - (NAVISTAR/INTERNATIONAL)

Injector Sleeve	179, 239, 259	448-6792-39
Injector Sleeve	466, 360, 414, 436	448-6794-61
Injector Sleeve	7.3	448-6797-31
Injector Sleeve	466E	448-6797-32

# Miscellaneous Diesel Tools



## SPLIT SLEEVE TAP DRIVERS

DESCRIPTION	OUTER DIAMETER	PART #
3/4" Split Sleeve Tap Driver	#3 MT	449-6933-20
7/8" Split Sleeve Tap Driver	#3 MT	449-6933-30
7/8" Split Sleeve Tap Driver	#4 MT	449-6933-35
1" Split Sleeve Tap Driver	#4 MT	449-6933-50



Split Sleeve Tap Driver

## EXTENSION ADAPTER SLEEVES

LENGTH	INNER DIAMETER	OUTER DIAMETER	PART #
4 1/2"	#2 MT	#3 MT	449-6935-20
5"	#2 MT	#4 MT	449-6935-25
5 1/2"	#3 MT	#4 MT	449-6935-30
9 1/2"	#4 MT	#3 MT	449-6935-50



Extension Adapter Sleeve

## IDL ADAPTERS

INNER DIAMETER	OUTER DIAMETER	PART #
#2	IDL	449-6935-70
#3	IDL	449-6935-75



Adapters (IDL shown)

## BRIDGEPORT AND DCM ADAPTERS

INNER DIAMETER	OUTER DIAMETER	PART #
#2	7/8"	449-6935-90
7/8"	R8 Collet	449-6935-98

## CROSSOVER GUIDE PINS

LARGE-END DIAMETER	SERIES	PART #
.563	Cummins 335, 350	449-6937-35
.625	Cummins 220, 250	449-6937-50
.567	Caterpillar 3406	449-6937-66

## OTHER - HINO

Push-Rod Tube Roll-in Tool	Hino	423-6315-20
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### Tools and Equipment Not Listed:

For Casting Repair or Removal and Installation tools not listed, call the factory or sales offices for information on parts and availability.

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