

Ripper / Scarifiers — Section Contents

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RIPPER TIP NOMENCLATURE

The ripper tip family nomenclature utilizes a single alpha character followed by three numeric digits. An alpha character of "R" is used to denote a ripper tip family. The three numeric digits following the "R" designation will indicate the relative tip family size.

Example:

	R	 	500
Alpha character indicates this as a ripper tip.			Numeric digits indicate relative ripper family size (5.00").

TYPES OF RIPPER TIPS (R)

- 1 - Short Centerline/Short Penetration
- 2 - Intermediate Centerline
Intermediate Penetration
- 3 - Long Centerline, Long Penetration
- 4 - ARM (Intermediate Centerline and Penetration)

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly									
110 x 450 SS	7T-6020	8E-0467 104-9277*							
110 x 450 DR			9W-0259	8E-1466 104-9275*					
100 x 400 MS					3G-6507	1U-4873 7T-5131	6Y-5616	8E-8413*	
Tips									
Short Centerline	9W-4551	9W-4551	9W-4551	9W-4551	4T-4501	4T-4501	4T-4501	4T-4501	
Intermediate Centerline	9W-4552	9W-4552	9W-4552	9W-4552	4T-4502	4T-4502	4T-4502	4T-4502	
Sharp Limestone Tip						159-0377	159-0377	159-0377	
Sharp Centerline ARM Tip						201-3502	201-3502	201-3502	
Long Centerline					8E-8503	8E-8503	8E-8503	8E-8503	
Short Penetration#					4T-5501	4T-5501	4T-5501	4T-5501	
Intermediate Penetration	6Y-3552	6Y-3552	6Y-3552	6Y-3552	4T-5502	4T-5502	4T-5502	4T-5502	
Long Penetration					4T-5503	4T-5503	4T-5503	4T-5503	
ARM — Intermediate Centerline	122-2552	122-2552	122-2552	122-2552	8E-5774	8E-5774	8E-5774	8E-5774	
ARM — Intermediate Penetration	135-9552	135-9552	135-9552	135-9552	8E-5772	8E-5772	8E-5772	8E-5772	
Tip Pins***									
Pin Assembly	6Y-2443		6Y-2443		102-9062	102-9062	102-9062		
Pin Retainer Assembly		6Y-1205		6Y-1205				6Y-1202	
Pin		9N-4245		9N-4245				6Y-1204	
Protectors									
2 Pin — Sharp	9N-4621	9N-4621	9N-4621	9N-4621			6Y-8960	6Y-8960	
1 Pin — Standard					3G-9594				
1 Pin — Sharp						6Y-9704			
Extended 2 Pin 1-Piece	132-1016	132-1016		132-1016			132-1015	132-1015	
Extended 2 Pin Multi-Piece				109-9063			109-9062	109-9062	
Bar (Stock)				109-9076			109-9071	109-9071	
Bar (Stock Length) (mm)				1680			1060	1060	
Shank Bar Maximum Length (mm)				1400			380	380	
Clamp				109-9072			109-9067	109-9067	
Clamp Bolts — 2				5B-5473			9F-6936	9F-6936	
Clamp Nuts — 2				2J-3507			2J-3507	2J-3507	
Clamp Spacer — 2				132-1004			132-1003	132-1003	
Protector Pins***									
Top:									
Pin Assembly	6Y-2443		6Y-2443				102-9062		
Pin Retainer Assembly		6Y-1205		6Y-1205				6Y-1202	
Pin		9N-4245		9N-4245				6Y-1204	
Weld-On Retainer — 2						8J-4889			
Bottom:									
Pin Assembly	6Y-2443		6Y-2443		102-9062	102-9062	102-9062		
Pin Retainer Assembly		6Y-1205		6Y-1205					
Pin		9N-4245		9N-4245					
Adapter — Field Repair**									
Adapter Pins***	104-9279	104-9279	104-9279	104-9279	1U-3630	1U-3630	103-8115	103-8115	
Tip Pin Assembly					102-9062	102-9062			
Tip Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1205	6Y-1205			6Y-1202	6Y-1202	
Tip Pin	9N-4245	9N-4245	9N-4245	9N-4245			6Y-1204	6Y-1204	
Protector Bottom Pin Assembly					102-9062	102-9062			
Protector Bottom Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1205	6Y-1205			6Y-1202	6Y-1202	
Protector Bottom Pin	9N-4245	9N-4245	9N-4245	9N-4245			6Y-1204	6Y-1204	
Protector Top Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1205	6Y-1205			6Y-1202	6Y-1202	
Protector Top Pin	9N-4245	9N-4245	9N-4245	9N-4245			6Y-1204	6Y-1204	
Adapter Nose — Field Repair									
Adapter Nose Pins***					103-8114	103-8114	107-3361	107-3361	
Tip Pin Retainer Assembly					6Y-1202	6Y-1202	6Y-1202	6Y-1202	
Tip Pin					6Y-1204	6Y-1204	6Y-1204	6Y-1204	
Protector Bottom Pin Retainer Assembly					6Y-1202	6Y-1202	6Y-1202	6Y-1202	
Protector Bottom Pin					6Y-1204	6Y-1204	6Y-1204	6Y-1204	

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

*** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

Rippers / Scarifiers

D11R RIPPER

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly			
110 x 450 SS	8E-0467 104-9277*		
110 x 450 DR		8E-1466 104-9275*	
100 x 400 MS		4Z-8814	8E-8413* 4Z-8849*
Tips			
Short Centerline	9W-4551	9W-4551	4T-4501
Intermediate Centerline	9W-4552	9W-4552	4T-4502
Sharp Limestone Tip			159-0377
Sharp Centerline ARM Tip			201-3502
Long Centerline			8E-8503
Short Penetration#			4T-5501
Intermediate Penetration	6Y-3552	6Y-3552	4T-5502
Long Penetration			4T-5503
ARM — Intermediate Centerline	122-2552	122-2552	8E-5774
ARM — Intermediate Penetration	135-9552	135-9552	8E-5772
Tip Pins**			
Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1202
Pin	9N-4245	9N-4245	6Y-1204
Protectors			
2 Pin — Sharp	9N-4621	9N-4621	6Y-8960
Extended 2 Pin 1-Piece	132-1016	132-1016	132-1015
Extended 2 Pin Multi-Piece		109-9063	109-9062
Bar (Stock)		109-9076	109-9071
Bar (Stock Length) (mm)		1680	1060
Shank Bar Maximum Length (mm)		1400	380
Clamp		109-9072	109-9067
Clamp Bolts — 2		5B-5473	9F-6936
Clamp Nuts — 2		2J-3507	2J-3507
Clamp Spacer — 2		132-1004	132-1003
Tip Pin Retainer**			
Tip Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1202
Tip Pin	9N-4245	9N-4245	6Y-1204
Protector Bottom Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1202
Protector Bottom Pin	9N-4245	9N-4245	6Y-1204
Protector Top Pin Retainer Assembly	6Y-1205	6Y-1205	6Y-1202
Protector Top Pin	9N-4245	9N-4245	6Y-1204
Adapter Nose — Field Repair			107-3361
Adapter Nose Pins**			
Tip Pin Retainer Assembly			6Y-1202
Tip Pin			6Y-1204
Protector Bottom Pin Retainer Assembly			6Y-1202
Protector Bottom Pin			6Y-1204

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly									
100 x 400 SS	3G-5707	1V-4592 7T-5130	6Y-4679	8E-8412*					
100 x 400 MS					3G-6507	7T-5131 1U-4873	6Y-5616	8E-8413*	
Tips									
Short Centerline	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501
Intermediate Centerline	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502
Sharp Limestone Tip	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377
Sharp Centerline ARM Tip	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502
Long Centerline	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503
Short Penetration#	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501
Intermediate Penetration	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502
Long Penetration	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503
ARM — Intermediate Centerline	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774
ARM — Intermediate Penetration	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772
Tip Pins***									
Pin Assembly	102-9062	102-9062	102-9062		102-9062	102-9062	102-9062		
Pin Retainer Assembly				6Y-1202				6Y-1202	
Pin				6Y-1204				6Y-1204	
Protectors									
2 Pin — Sharp			6Y-8960	6Y-8960			6Y-8960	6Y-8960	
1 Pin — Standard	3G-9594				3G-9594				
1 Pin — Sharp		6Y-9704				6Y-9704			
Extended 2 Pin 1-Piece			132-1015	132-1015			132-1015	132-1015	
Extended 2 Pin Multi-Piece			109-9062	109-9062			109-9062	109-9062	
Bar (Stock)			109-9071	109-9071			109-9071	109-9071	
Bar (Stock Length) (mm)			1060	1060			1060	1060	
Shank Bar Maximum Length (mm)			1060	1060			380	380	
Clamp			109-9067	109-9067			109-9067	109-9067	
Clamp Bolts — 2			9F-6936	9F-6936			9F-6936	9F-6936	
Clamp Nuts — 2			2J-3507	2J-3507			2J-3507	2J-3507	
Clamp Spacer — 2			132-1003	132-1003			132-1003	132-1003	
Protector Pins***									
Top:									
Pin Assembly			102-9062				102-9062		
Pin Retainer Assembly				6Y-1202				6Y-1202	
Pin				6Y-1204				6Y-1204	
Weld-On Retainer — 2		8J-4889				8J-4889			
Bottom:									
Pin Assembly	102-9062	102-9062	102-9062		102-9062	102-9062	102-9062		
Pin Retainer Assembly				6Y-1202				6Y-1202	
Pin				6Y-1204				6Y-1204	
Adapter — Field Repair**	1U-3630	1U-3630	103-8115	103-8115	1U-3630	1U-3630	103-8115	103-8115	
Adapter Pins***									
Tip Pin Assembly	102-9062	102-9062			102-9062	102-9062			
Tip Pin Retainer Assembly			6Y-1202	6Y-1202			6Y-1202	6Y-1202	
Tip Pin			6Y-1204	6Y-1204			6Y-1204	6Y-1204	
Protector Bottom Pin Assembly	102-9062	102-9062			102-9062	102-9062			
Protector Bottom Pin Retainer Assembly			6Y-1202	6Y-1202			6Y-1202	6Y-1202	
Protector Bottom Pin			6Y-1204	6Y-1204			6Y-1204	6Y-1204	
Protector Top Pin Retainer Assembly			6Y-1202	6Y-1202			6Y-1202	6Y-1202	
Protector Top Pin			6Y-1204	6Y-1204			6Y-1204	6Y-1204	
Adapter Nose — Field Repair	103-8114	103-8114	107-3361	107-3361	103-8114	103-8114	107-3361	107-3361	
Adapter Nose Pins***									
Tip Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	
Tip Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	
Protector Bottom Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	
Protector Bottom Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	

SS — Single Shank MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

*** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly										
90 x 355 SS	3G-2088									
	9W-4426									
		6Y-6138	8E-8414							
90 x 380 SS		9W-8366	8E-8411**							
90 x 355 DR				3G-8566	6Y-6144	8E-8416**				
				9W-4427						
90 x 380 DR					6Y-6147	8E-8417**				
90 x 355 MS							9J-5954	6Y-6141	8E-8415**	
Tips										
Short Centerline	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501
Intermediate Centerline	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502
Sharp Limestone Tip	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377
Sharp Centerline ARM Tip	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502
Long Centerline	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503
Short Penetration##	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501
Intermediate Penetration	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502
Long Penetration	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503
ARM — Intermediate Centerline	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774
ARM — Intermediate Penetration	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772
Tip Pins***										
Pin Assembly	102-9062	102-9062		102-9062	102-9062		102-9062	102-9062		
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202	
Pin			6Y-1204			6Y-1204			6Y-1204	
Protectors										
2 Pin — Sharp		9W-8365	9W-8365		9W-8365	9W-8365		9W-8365	9W-8365	
1 Pin — Sharp	6Y-9704			6Y-9704			6Y-9704			
Extended 2 Pin 1-Piece	132-1014	132-1014	132-1014	132-1014	132-1014	132-1014	132-1014	132-1014	132-1014	132-1014
Protector Pins***										
Top:										
Pin Assembly		102-9062			102-9062			102-9062		
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202	
Pin			6Y-1204			6Y-1204			6Y-1204	
Weld-On Retainer	8J-4889			8J-4889			8J-4889			
Bottom:										
Pin Assembly	102-9062	102-9062		102-9062	102-9062		102-9062	102-9062		
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202	
Pin			6Y-1204			6Y-1204			6Y-1204	
Adapter — Field Repair	1U-3630	103-8115	103-8115	1U-3630	103-8115	103-8115	1U-3630	103-8115	103-8115	103-8115
Adapter Pins***										
Tip Pin Assembly	102-9062			102-9062			102-9062			
Tip Pin Retainer Assembly		6Y-1202	6Y-1202		6Y-1202	6Y-1202		6Y-1202	6Y-1202	
Tip Pin		6Y-1204	6Y-1204		6Y-1204	6Y-1204		6Y-1204	6Y-1204	
Protector Bottom Pin Assembly	102-9062			102-9062			102-9062			
Protector Bottom Pin Retainer Assembly		6Y-1202	6Y-1202		6Y-1202	6Y-1202		6Y-1202	6Y-1202	
Protector Bottom Pin		6Y-1204	6Y-1204		6Y-1204	6Y-1204		6Y-1204	6Y-1204	
Protector Top Pin Retainer Assembly		6Y-1202	6Y-1202		6Y-1202	6Y-1202		6Y-1202	6Y-1202	
Protector Top Pin		6Y-1204	6Y-1204		6Y-1204	6Y-1204		6Y-1204	6Y-1204	
Adapter Nose — Field Repair	103-8114	107-3361	107-3361	103-8114	107-3361	107-3361	103-8114	107-3361	107-3361	107-3361
Adapter Nose Pins***										
Tip Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204
Protector Bottom Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202
Protector Bottom Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204

SS — Single Shank DR — Deep Rip MS — Multi Shank

* 8E-8417 maximum length is 41" (1040 mm).

** One piece shank.

*** See page 11-25 for additional pin and retainer assemblies.

Maximum length for 8E-8414 is 21" (540 mm).

Sharp tip option 144-1269

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly			
100 x 400 SS	118-2140*		
100 x 400 DR		109-3135*	
90 x 355 MS			8E-8415*
Tips			
Short Centerline	4T-4501	4T-4501	4T-4501
Intermediate Centerline	4T-4502	4T-4502	4T-4502
Sharp Limestone Tip	159-0377	159-0377	159-0377
Sharp Centerline ARM Tip	201-3502	201-3502	201-3502
Long Centerline	8E-8503	8E-8503	8E-8503
Short Penetration#	4T-5501	4T-5501	4T-5501
Intermediate Penetration	4T-5502	4T-5502	4T-5502
Long Penetration	4T-5503	4T-5503	4T-5503
ARM — Intermediate Centerline	8E-5774	8E-5774	8E-5774
ARM — Intermediate Penetration	8E-5772	8E-5772	8E-5772
Tip Pins***			
Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Pin	6Y-1204	6Y-1204	6Y-1204
Protectors			
2 Pin — Sharp	6Y-8960	6Y-8960	9W-8365
Extended 2 Pin 1-Piece	132-1015	132-1015	132-1014
Extended 2 Pin Multi-Piece		109-9062	
Bar (Stock)		109-9071	
Bar (Stock Length) (mm)		1060	
Shank Bar Maximum Length (mm)		1140	
Clamp		109-9067	
Clamp Bolts — 2		9F-6936	
Clamp Nuts — 2		2J-3507	
Clamp Spacer — 2		132-1003	
Protector Pins***			
Top:			
Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Pin	6Y-1204	6Y-1204	6Y-1204
Bottom:			
Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Pin	6Y-1204	6Y-1204	6Y-1204
Adapter — Field Repair**	103-8115	103-8115	103-8115
Adapter Pins***			
Tip Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-1204	6Y-1204	6Y-1204
Protector Bottom Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Protector Bottom Pin	6Y-1204	6Y-1204	6Y-1204
Protector Top Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Protector Top Pin	6Y-1204	6Y-1204	6Y-1204
Adapter Nose — Field Repair	107-3361	107-3361	107-3361
Adapter Nose Pins***			
Tip Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-1204	6Y-1204	6Y-1204
Protector Bottom Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202
Protector Bottom Pin	6Y-1204	6Y-1204	6Y-1204

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

*** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
90 x 355 SS	7J-1792	107-3485					
90 x 355 DR			7J-1793	107-3486			
75 x 332 MS					7J-1794	8E-5345*	
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Tip Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly									
90 x 355 SS	3G-2088	6Y-6138	8E-8414*						
	9W-4426								
90 x 355 DR				3G-8566	6Y-6144	8E-8416*			
				9W-4427					
90 x 355 MS							9J-5954	6Y-6141	8E-8415*
Tips									
Short Centerline	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501	4T-4501
Intermediate Centerline	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502	4T-4502
Sharp Limestone Tip	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377	159-0377
Sharp Centerline ARM Tip	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502	201-3502
Long Centerline	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503	8E-8503
Short Penetration#	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501	4T-5501
Intermediate Penetration	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502	4T-5502
Long Penetration	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503	4T-5503
ARM — Intermediate Centerline	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774	8E-5774
ARM — Intermediate Penetration	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772	8E-5772
Tip Pins***									
Pin Assembly	102-9062	102-9062		102-9062	102-9062		102-9062	102-9062	
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202
Pin			6Y-1204			6Y-1204			6Y-1204
Protectors									
2 Pin — Sharp		9W-8365	9W-8365		9W-8365	9W-8365		9W-8365	9W-8365
1 Pin — Sharp	6Y-9704			6Y-9704			6Y-9704		
Extended 2 Pin 1-Piece		132-1014	132-1014		132-1014	132-1014		132-1014	132-1014
Protector Pins***									
Top:									
Pin Assembly		102-9062			102-9062			102-9062	
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202
Pin			6Y-1204			6Y-1204			6Y-1204
Weld-On Retainer	8J-4889			8J-4889			8J-4889		
Bottom:									
Pin Assembly	102-9062	102-9062		102-9062	102-9062		102-9062	102-9062	
Pin Retainer Assembly			6Y-1202			6Y-1202			6Y-1202
Pin			6Y-1204			6Y-1204			6Y-1204
Adapter — Field Repair**	1U-3630	103-8115	103-8115	1U-3630	103-8115	103-8115	1U-3630	103-8115	103-8115
Adapter Pins***									
Tip Pin Assembly	102-9062			102-9062			102-9062		
Tip Pin Retainer Assembly		6Y-1202	6Y-1202		6Y-1202	6Y-1202		6Y-1202	6Y-1202
Tip Pin		6Y-1204	6Y-1204		6Y-1204	6Y-1204		6Y-1204	6Y-1204
Protector Pin Assembly	102-9062			102-9062			102-9062		
Protector Pin Retainer Assembly		6Y-1202	6Y-1202		6Y-1202	6Y-1202		6Y-1202	6Y-1202
Protector Pin		6Y-1204	6Y-1204		6Y-1204	6Y-1204		6Y-1204	6Y-1204
Adapter Nose — Field Repair	103-8114	107-3361	107-3361	103-8114	107-3361	107-3361	103-8114	107-3361	107-3361
Adapter Nose Pins***									
Tip Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204
Protector Pin Retainer Assembly	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202	6Y-1202
Protector Pin	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204	6Y-1204

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

*** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
75 x 332 SS	9W-6167	8E-5339*					
75 x 332 DR			4T-8988	8E-5348*			
75 x 332 MS					4T-8990	8E-5346*	
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Tip Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**							
	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair							
	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR LARGE RIPPERS

Model	D9R	D9R	D9R	D9R	D9R	D9R/D9T	D9R/D9T	D9R/D9T	D9R HD*
Ripper Shank Assembly									
75 x 332 SS	9W-6167	8E-5339**							
75 x 332 DR			4T-8988	8E-5348**					
75 x 332 MS					4T-8990	8E-5346**			
90 x 355 SS							114-4503**		8E-8414**
90 x 355 DR								109-9114**	
Tips									
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	4T-4501	4T-4501	4T-4501
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	4T-4502	4T-4502	4T-4502
Sharp Limestone Tip							159-0377	159-0377	159-0377
Sharp Centerline ARM Tip							201-3502	201-3502	201-3502
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	8E-8503	8E-8503	8E-8503
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5501#	4T-5501#	4T-5501#
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5502	4T-5502	4T-5502
Long Penetration							4T-5503	4T-5503	4T-5503
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5774	8E-5774	8E-5774
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5772	8E-5772	8E-5772
Tip Pins****									
Pin Assembly	4T-2479		4T-2479		4T-2479				
Pin Retainer		8E-4743		8E-4743		8E-4743			
Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Pin		6Y-3394		6Y-3394		6Y-3394	6Y-1204	6Y-1204	6Y-1204
Protectors									
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814			
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	9W-8365	9W-8365	9W-8365
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-1014	132-1014	132-1014
Protector Pins****									
Top:									
Pin Assembly	4T-2479		4T-2479		4T-2479				
Pin Retainer		8E-4743		8E-4743		8E-4743			
Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Pin		6Y-3394		6Y-3394		6Y-3394	6Y-1204	6Y-1204	6Y-1204
Bottom:									
Pin Assembly	6J-8811		6J-8811		6J-8811				
Pin Retainer		8E-4743		8E-4743		8E-4743			
Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Pin		6Y-3394		6Y-3394		6Y-3394	6Y-1204	6Y-1204	6Y-1204
Adapter — Field Repair***	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	103-8115	103-8115	103-8115
Adapter Pins****									
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743			
Tip Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-1204	6Y-1204	6Y-1204
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743			
Protector Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Protector Bottom Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-1204	6Y-1204	6Y-1204
Adapter Nose — Field Repair	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	107-3361	107-3361	107-3361
Adapter Nose Pins****									
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743			
Tip Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-1204	6Y-1204	6Y-1204
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743			
Protector Pin Retainer Assembly							6Y-1202	6Y-1202	6Y-1202
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-1204	6Y-1204	6Y-1204

SS — Single Shank DR — Deep Rip MS — Multi Shank

* Heavy duty carriage ripper allows D10N-size single shank ripper carriage and shank (90 mm x 355 mm cross-section) to be used on the early D9R. This modification provides 5" (127 mm) more penetration than standard D9R SS ripper. This option is ordered as a custom products offering.

** One piece shank.

*** See page 11-30 and Special Instructions SEHS7888 for installation.

**** See page 11-25 for additional pin and retainer assemblies.

Sharp tip option 144-1269.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
75 x 332 SS	4T-8989	8E-5347*					
75 x 332 DR			4T-0134	8E-5340*			
75 x 332 MS					4T-8990	8E-5346*	
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
Long Penetration							
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Tip Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**							
	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair							
	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
90 x 355 SS	7J-1792	107-3485					
90 x 355 DR			7J-1793	107-3486			
75 x 332 MS					7J-1795	8E-5346*	
					4T-8990		
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
Long Penetration							
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Tip Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
75 x 332 SS	4T-0135	8E-5342*		4T-0134	8E-5340*		
75 x 332 DR						4T-0136	8E-5341*
75 x 332 MS							
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
Long Penetration							
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**							
Adapter Pins	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair							
Adapter Nose Pins	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR LARGE RIPPERS

Ripper Shank Assembly							
75 x 332 SS	4T-8989	8E-5347*					
75 x 332 DR			4T-0134	8E-5340*			
75 x 332 MS					4T-8990	8E-5346*	
Tips							
Short Centerline	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451	9W-2451
Intermediate Centerline	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452	9W-2452
Long Centerline	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453	114-0453
Short Penetration	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451	4T-5451
Intermediate Penetration	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452	4T-5452
Long Penetration							
ARM — Intermediate Centerline	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770	8E-5770
ARM — Intermediate Penetration	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771	8E-5771
Tip Pins							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Protectors							
2 Pin — Standard	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814	6J-8814
2 Pin — Sharp	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848	8E-1848
Extended 2 Pin 1-Piece	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716	132-4716
Protector Pins							
Top:							
Pin Assembly	4T-2479		4T-2479		4T-2479		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Bottom:							
Pin Assembly	6J-8811		6J-8811		6J-8811		
Pin Retainer		8E-4743		8E-4743		8E-4743	
Pin		6Y-3394		6Y-3394		6Y-3394	
Adapter — Field Repair**	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418	8E-8418
Adapter Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Adapter Nose — Field Repair	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694	9U-9694
Adapter Nose Pins							
Tip Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Tip Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394
Protector Pin Retainer	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743	8E-4743
Protector Pin	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394	6Y-3394

SS — Single Shank DR — Deep Rip MS — Multi Shank

* One piece shank.

** See page 11-30 and Special Instructions SEHS7888 for installation.

REPLACEMENT PARTS FOR D9/D8 ECONOMY AND HINGE-TYPE RIPPERS AND D7 MULTI-SHANK RIPPERS

Component	D9/D8 Hinge, D7 Multi-shank	D9/D8 Economy
Tips (DH-2 Steel)		
Short	7J-3309	7J-3309
Intermediate	7J-3310	7J-3310
Long	7J-3312	7J-3312
Adapter	7J-2588	7J-1848**
Protector	7J-2351	7J-2248
Shank Guard	7J-2352	7J-2249
Pin Assembly — Tip/Protector Top	4T-2479	4T-2479
Pin Assembly — Protector Bottom	6J-8811	6J-8811
Shank Assembly		
No. 9	7J-2514	7J-2044*
No. 8	7J-2515	7J-2045*
No. 7	7J-2459	

* Cancelled. Use 4T-0136.

** Cancelled. Shown for reference only.

REPLACEMENT PARTS FOR SMALL RIPPERS

Ripper/Machine Model	Shank	Type	Protector	Tip	Style	Retainer Pin	or Plug
983	7J-6671#	S		6Y-0359 159-0356 6Y-0352 159-0355	Penetration ARM Penetration Centerline ARM Centerline	114-0358 ¹	114-0359 ¹
No. 7, D7R	9W-7382*#	S		6Y-0359 159-0356 6Y-0352 159-0355	Penetration ARM Penetration Centerline ARM Centerline	114-0358 ¹	114-0359 ¹
No. 6, No. 5, 977, 973, 16, 24H, D6M, D6N	9J-3139#	S		6Y-0359	Penetration	114-0358 ¹	114-0359 ¹
	138-0797	S	138-0796	159-0356 6Y-0352 159-0355	ARM Penetration Centerline ARM Centerline		
No. 6, No. 5, D6R 977, 973, 16, D6M, D6N	9J-8923#	C		6Y-0359 159-0356 6Y-0352 159-0355	Penetration ARM Penetration Centerline ARM Centerline	114-0358 ¹	114-0359 ¹
	9J-6586##	S		6Y-0309 168-1309	Penetration ARM Penetration	136-8308	114-0359
No. 4, 963, 955, 951, 941, 12, 14, 130, 140, 143H, 160H, 163, D5M, D5N	9J-8913##	C		9W-7309	Sharp		
	6Y-0865#***	HD		6Y-0352 159-0355 6Y-0359 159-0356	Centerline ARM Centerline Penetration ARM Penetration	114-0358 ¹	114-0359 ¹
953, 943, D3G, D4G, D5G	5K-1428**#	S		5K-0053	Long	4K-0043	5K-1426
	1U-1257	C		9J-4259 9W-8259	Penetration Sharp	132-4763 ¹	149-5733
No. 3, 931, 933, 939, D4C, 135H, 120H, D5C	8J-5299	S		1U-3202 9W-8209 1U-3209	Centerline Sharp Penetration	8E-6208	8E-6209 ¹

S — Straight Shank C — Curved Shank HD — Heavy Duty

* 9W-7488 Repair adapter is available.

** Cancelled. Use other shanks shown.

*** Heavy duty shank. Use 6Y-0359 or 6Y-0352 tips and 9W-2678/1U-2405 pin and retainer.

8E-7350 Repair adapter nose is available.

8E-7300 Repair adapter nose is available.

¹ HVD style pin and retainer.

SMALL RIPPER SHANK DIMENSION CHART — D7 SIZE AND DOWN
All Dimensions in Inches and (mm)

Total Assembly Length	Model Usage	Width	Thickness	Shank Part Number	Number of Holes	Top to First Pin Hole	Top to Second Pin Hole	Shank Pin Hole Diameter
48.75 (1238)	D7	8.98 (228)	2.85 (72.4)	9W-7382	2	3.42 (87)	12.48 (317)	3.14 (80.0)
33.86 (860)	983, 980, 824, 977, 988, D5, D6	6.93 (176)	2.87 (73)	7J-6671	1	5.99 (152)	none	2.12 (54)
28.00 (711)	977, 16, D6, D5	6.93 (176)	2.87 (73)	9J-3139	1	4.76 (121)	none	2.14 (54.5)
26.25 (667)	977, 973, D6, D5	6.93 (176)	2.87 (73)	9J-8923	1	4.76 (121)	none	2.14 (54.5)
21.00 (533)	955, 951, 941, 12, 145, D5M, D5N	5.43 (138)	2.30 (58.5)	9J-6586	1	4.01 (102)	none	1.93 (49)
20.00 (507)	955, 951, 941, 12, 14, D4, D5M, D5N	5.43 (138)	2.30 (58.5)	9J-8913	1	4.01 (102)	none	1.93 (49)
18.23 (463)	963	5.47 (139)	2.30 (58.5)	6Y-0865	1	3.98 (101)	none	1.89 (48)
18.80 (477.4)	953, 943	4.29 (109)	1.97 (50)	1U-1257	1	3.94 (100)	none	1.14 (29)
17.25 (438)	935, 931, 939, D3, D4, D5, 135, 129	2.95 (75)	1.38 (35)	8J-5299	1	2.00 (51)	none	1.14 (29)

* Uses DH-2 Steel.

REPLACEMENT PARTS FOR SCARIFIERS

Components	V-Block (Rear Notched)	V-Block (Front Notched)	Straight Block (Rear Notched)	No. 6 (Non-Current)
Shank Standard Long	5B-0947	195-7218 7D-4501	195-7219	6K-5704*
Tips				
General Purpose (DH-2)	195-7234*	195-7234*	195-7234*	
High Temperature (DH-3)	6Y-5230**	6Y-5230**	6Y-5230**	5K-0450*
High Abrasion (ARM)	143-3074**	143-3074**	143-3074**	143-3074**

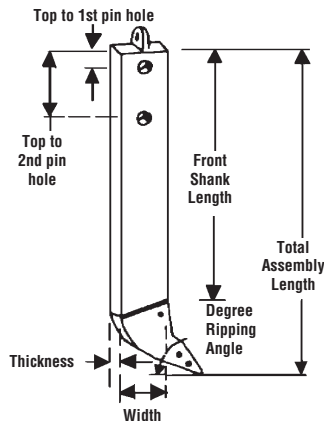
* Uses DH-2 Steel.

** Use 6B-3260 tool for driving scarifier tips off shanks.

RIPPER SHANK ASSEMBLY DIMENSIONS

Use this table to —

- Determine proper Cat ripper shanks to fit on Cat machines.
- Adapt standard Cat ripper shanks to other than Cat machines.
- Identify unmarked ripper shanks through dimensions, shapes and holes.
- Change shank ripping angles.
- Determine maximum depth of penetration per machine model.



DIMENSIONS OF LARGE RIPPER SHANKS All Dimensions in Inches and (mm)

Total Assembly Length	Model Usage	Width	Thickness	Shank Part Number	Number of Holes	Top to First Pin Hole	Top to Second Pin Hole	Shank Pin Hole Diameter
190.0 (4827)	D11	17.72 (450)	4.33 (110)	4Z-9312*	3	20.07 (510)	50.08 (1272)	4.5 (114.3)
175.0 (4444)	D11	15.75 (400)	3.94 (100)	4Z-5346*	9	7.87 (200)	20.47 (520)	4.5 (114.3)
164.0 (4166)	D11	17.72 (450)	4.33 (110)	4Z-9196*	6	10.35 (263)	20.2 (513)	4.5 (114.3)
164.0 (4166)	D11	17.72 (450)	4.33 (110)	4Z-8814*	9	8.66 (220)	52.75 (1340)	4.5 (114.3)
159.2 (4044)	D10	14.96 (380)	3.54 (90)	128-5523	6	8.66 (220)	22.64 (575)	4.5 (114.3)
129.6 (3292)	D11	17.72 (450)	4.33 (110)	104-9275	3	8.66 (220)	30.71 (780)	4.5 (114.3)
127.36 (3235)	D10	15.75 (400)	3.94 (100)	105-9691*	2	4.33 (110)	25.39 (645)	4.5 (114.3)
126.06 (3202)	D11	15.75 (400)	3.94 (100)	4Z-9314*	2	4.33 (110)	25.35 (644)	4.5 (114.3)
119.5 (3035)	D11	15.75 (400)	3.94 (100)	4Z-8849*	4	4.33 (110)	25.39 (645)	4.5 (114.3)
118.78 (3017)	D10	15.75 (400)	4.0 (102)	109-3135*	3	8.66 (220)	27.56 (700)	4.5 (114.3)
118.0 (2997)	D10	14.96 (380)	3.5 (89)	8E-8417	3	8.66 (220)	26.0 (660)	

* If more than one of the same part is desired, it must be ordered as it is not in stock. Delivery time is approximately 30 days within North America.

DIMENSIONS OF LARGE RIPPER SHANKS — Continued
All Dimensions in Inches and (mm)

Total Assembly Length	Model Usage	Width	Thickness	Shank Part Number	Number of Holes	Top to First Pin Hole	Top to Second Pin Hole	Shank Pin Hole Diameter
111.22 (2825)	D9, D10	13.98 (355)	3.54 (90)	109-9075	2	8.66 (220)	25.98 (660)	4.5 (114.3)
111.22 (2825)	D9	13.98 (355)	3.54 (90)	109-9114	3	13.5 (343)	33.54 (852)	4.5 (114.3)
111.2 (2824)	D9, D10	14.0 (356)	3.5 (89)	8E-8416	3	8.66 (220)	26.0 (660)	4.49 (114)
110.7 (2812)	D10, D11	15.75 (400)	4.0 (102)	8E-8412 132-4699	4 2	7.87 (200)	20.47 (520)	4.49 (114)
108.66 (2760)	D9	13.0 (330)	2.94 (75)	8E-5348	3	4.25 (108)	25.12 (638)	3.7 (94)
107.6 (2733)	D11	17.72 (450)	4.33 (110)	104-9277	4	8.66 (220)	19.68 (500)	4.5 (114.3)
106.69 (2719)	D9, D10	13.98 (355)	3.54 (90)	4Z-8937*	4	3.93 (100)	22.05 (560)	4.5 (114.3)
106.3 (2700)	D8, D9	13.98 (355)	3.54 (90)	107-3486	6	4.25 (108)	16.26 (413)	3.7 (94)
98.8 (2510)	D10	15.75 (400)	3.94 (100)	118-2140* a	3	5.9 (150)	19.88 (505)	4.5 (114.3)
98.8 (2510)	D10	14.96 (380)	3.5 (89)	8E-8411	3	5.9 (150)	19.88 (505)	
96.8 (2459)	D8	13.07 (332)	2.94 (75)	8E-5340	3	4.25 (108)	28.27 (718)	3.7 (94)
91.8 (2332)	D9	13.0 (332)	2.94 (75)	8E-5339	3	4.25 (108)	15.87 (403)	3.7 (94)
91.53 (2325)	D9	13.98 (355)	3.54 (90)	114-4503	3	10.67 (271)	22.29 (566)	4.5 (114.3)
91.5 (2324)	D9, D10	14.0 (356)	3.5 (89)	8E-8414	3	8.66 (220)	17.32 (440)	4.49 (114)
84.29 (2165)	D8, D9	13.98 (355)	3.54 (90)	107-3485	4	4.25 (108)	16.26 (413)	3.7 (94)
79.13 (2010)	D8	13.07 (332)	2.94 (74.6)	8E-5347	3	4.25 (108)	16.26 (413)	3.7 (94)
77.85 (1977)	D10, D11	15.75 (400)	4.0 (102)	8E-8413	2	4.0 (102)	15.0 (381)	2.02 (51.3)
75.16 (1909)	D8	13.0 (330)	2.94 (75)	8E-5342	3	4.25 (108)	16.26 (413)	3.7 (94)
71.6 (1819)	D9, D10	14.0 (356)	3.5 (89)	8E-8415	2	4.0 (102)	13.78 (350)	4.9 (114)
69.4 (1763)	D9	13.0 (330)	2.94 (75)	8E-5345	2	4.0 (102)	14.0 (356)	3.7 (94)
63.4 (1610)	D8, D9	13.0 (330)	2.94 (75)	8E-5346	2	3.15 (80)	13.0 (330)	3.7 (94)
63.19 (1605)	D8, D9	13.98 (355)	3.54 (90)	107-3486	4	4.26 (108)	16.26 (413)	3.7 (94)
59.0 (1499)	D8, D9	12.6 (320)	2.94 (75)	8E-5341	2	3.15 (80)	13.0 (330)	3.7 (94)
58.23 (1479)	D9	10.99 (279)	2.94 (75)	7J-2514	4	3.5 (89)	9.0 (229)	3.06 (77.7)
52.64 (1337)	D8	10.0 (254)	2.94 (75)	7J-2515	4	3.25 (83)	8.25 (210)	3.06 (77.7)
47.72 (1212)	D7	9.0 (229)	2.94 (75)	7J-2459	2	4.0 (102)	13.0 (330)	2.62 (66.5)

* If more than one of the same part is desired, it must be ordered as it is not in stock.
 Delivery time is approximately 30 days within North America.

a 144-1326 same as 118-2140 without protector holes.

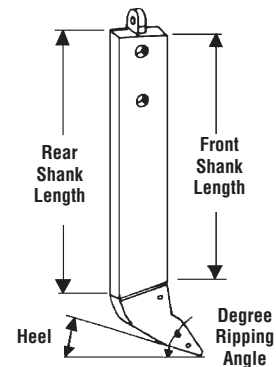
SHANK RIPPING ANGLE

The shank cut-off angle determines the ripping angle.

- Choose the desired front shank length and scribe a line front to back.
- Add a figure from the following list to the back shank length:

Shank Width	45° Ripping Angle	50° Ripping Angle
	10° Heel Angle	15° Heel Angle
14" (356 mm)	7" (178 mm)	5.38" (137 mm)
13" (330 mm)	6.50" (165 mm)	5" (127 mm)

- After you have the desired length, mark across the measured points and cut.
- Weld on the new adapter.



LARGE RIPPER SHANK CONVERSION

Conversion offers these advantages:

1. Permits use of Caterpillar Tips to meet varying ripping conditions.
2. Allows owners to standardize all rippers on Cat components for simplified ordering and stocking from one reliable source.
3. Tips backed by Caterpillar guarantee against breakage.

Conversion involves cutting off the lower portion of the shank and welding on a Caterpillar shank adapter. Many owners are capable of making the conversion in their own shops. However, you should consult your Service Manager about any specific conversion you plan to sell. Detailed conversion instructions are covered in Special Instructions, Form SEHS7888, and (for No. 7 Rippers) SMHS6966.

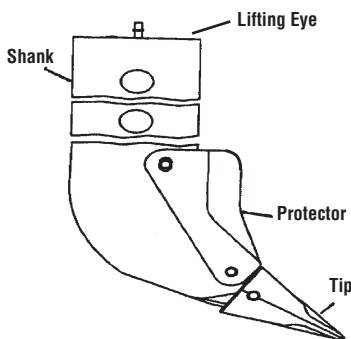
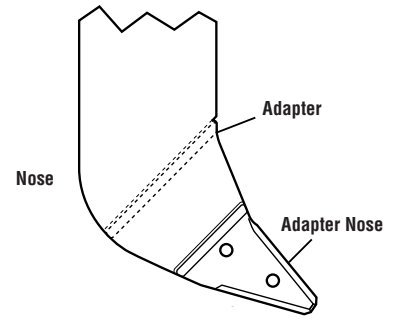
**LARGE RIPPER COMPONENTS —
Built for tough ripping assignments**

Shank Protectors

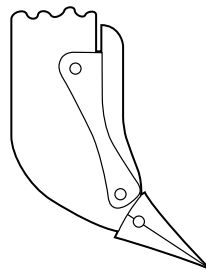
- Recommended for all applications.
- DH-2 steel for strength and wear resistance.
- Side-pinned for easy replacement.

Shank Adapters and Adapter Noses

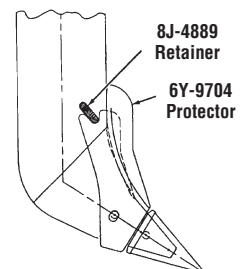
- Used to repair Caterpillar shanks or to convert competitive shanks to Caterpillar tips and protectors.
- Forged DH-2 steel.
- Adapters available for all models; noses available for all adapters except D11N single shank.



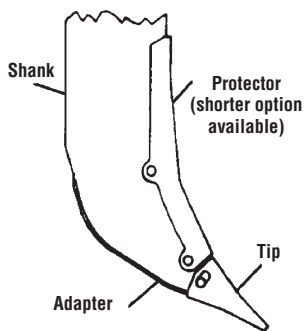
D11N Single Shank



**D11N Multi-Shank,
D10, D10N, D9L**



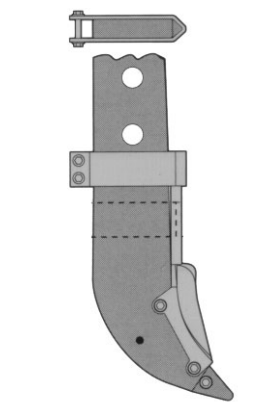
**D11N Multi-Shank,
D10, D10N, D9L
(Old style one-pin protector)**



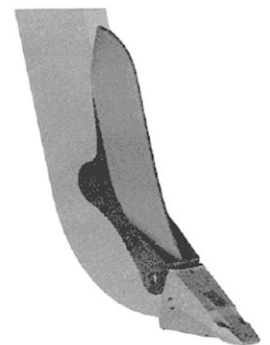
**D9G, D9H, D9N, D8H,
D8K, D8L, D8N
Extended Protector**



**24H, D5, D6, D6M, 977,
973, 16
Ripper**



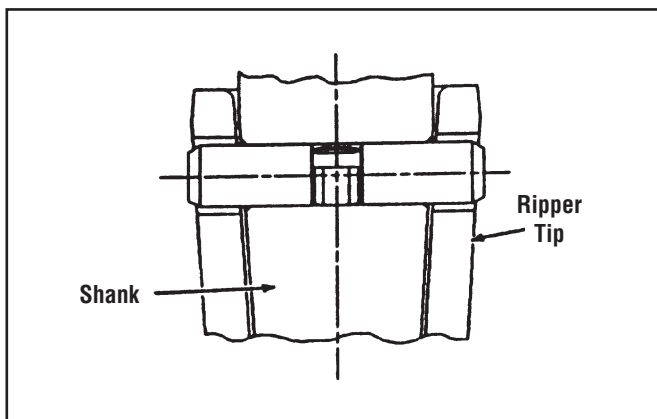
**D11N, D11R, D10N,
D10R, D9R, D9N, D8N, D8R
Multi-Piece Protector**



**D11N, D11, D10N,
D10, D9L
Extended 2 Pin
One-Piece Protector**

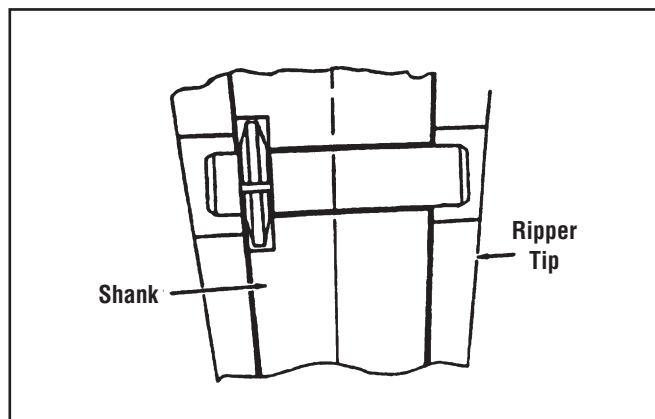
Pins

OLD



Former 102-9062 Pin Assembly

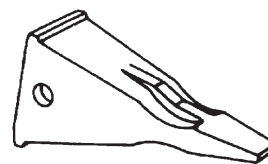
NEW



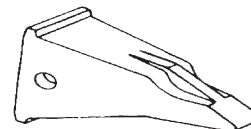
Bucket Style Pin and Retainer
6Y-3909 Pin, 4T-4707 Retainer

Tips

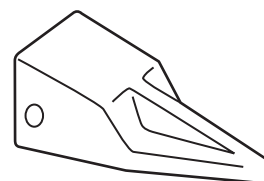
- DH-3 steel for better heat resistance.
- Center-rib design stays sharp longer.
- Centerline and penetration styles available — use penetration style for easier surface penetration.
- Sharp tip offers best penetration but least wear material.
- Various lengths to match job conditions — longer tips move through the ground easier (sharper) and have less expensive wear material — shorter tips are stronger.
- Side-pinned for better retention.
- Unconditionally guaranteed against breakage.



Centerline Tip



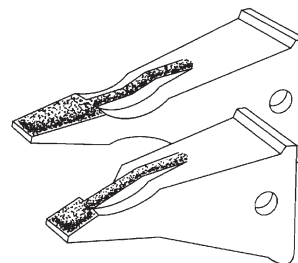
Penetration Tip
(always install with rib up)



Sharp Tip

ARM Tips

- DH-3 thru-hardened steel.
- Temper effect elimination.
- Increased ARM impact resistance when factory applied.
- Increased tip life.
- Increased productivity.
- Reduced cost per yard of ripped material.

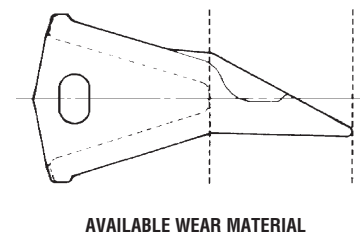


ARM Tip

WEAR MATERIAL COMPARISON

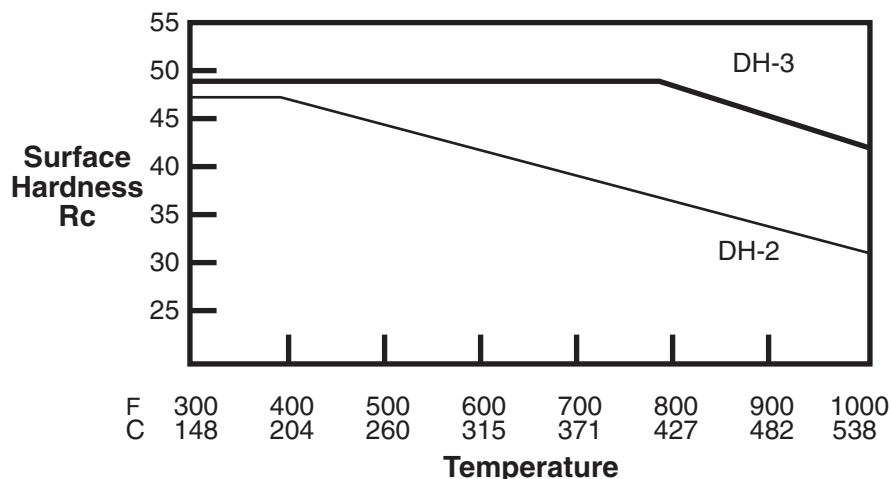
This table compares the amount of available wear material — as a percent of total weight — for each Caterpillar ripper tip.

Tip	% Available Wear Material	Tip	% Available Wear Material
7J-3309	42	4T-5503	52
7J-3310	46	4T-5451	51
7J-3312	52	4T-5452	53
6Y-0309	55	9W-2451	45
6Y-0359	56	9W-2452	50
4T-4501	50	9W-4551	27
4T-4502	52	9W-4552	41
8E-8503	55	6Y-3552	37
4Y-5501	46	114-0453	50
4T-5502	49		



These figures should be viewed only as approximate indicators of wear life. They are calculated by dividing the amount of material in front of the adapter pocket by the total tip weight — actual tip life, of course, will vary by job application.

Effect of GET Operating Temperature on (DH-3 vs. DH-2)



The advantage of DH-3 over DH-2 material product is when the parts get HOT, (for example: when the operating temperature of a DH-2 part exceeds 400°F (200°C)). This exceeds the tempering temperature of DH-2 parts, resulting in a softer part. As the temperature increases above 400°F, the part continues to get increasingly softer. This does not occur on DH-3 parts until operating temperatures exceed 800°F.

An infra-red gun was pointed at a D10N ripper tip that had been ripping a relatively long pass. As the tip was raised above the ground level, the tip temperature was recorded. Many readings were observed and temperature ranges between 700°F and 900°F were recorded. At the 800°F temperature range, the DH-2 tip had softened to Rc 35 (from Rc 49), while the DH-3 tip remained at Rc 49. For the remainder of that DH-2 tip's life, it remained soft and wore at a higher wear rate than the original Rc 49 wear rate.

In this example, the customer saw a 30-40% increase in life of the DH-3 tip over the DH-2 tip.

IMPROVED RIPPER TIP AND PROTECTOR RETENTION

6808, 6810, 6812, 6814

A new retention system has been introduced which improves ripper tip and protector retention.

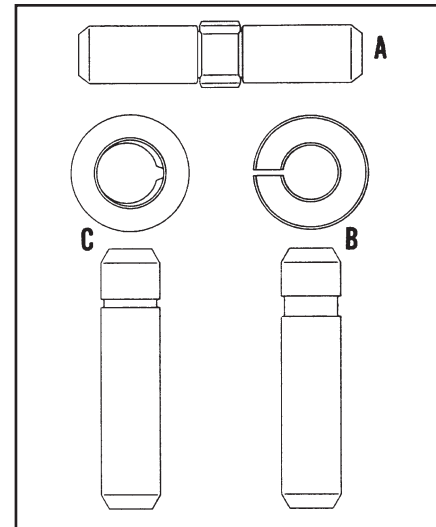
All one piece ripper shanks and all other current ripper shanks and adapters (except 1U-3630 with 1-pin protector) available on production machines and in parts stock no longer use a pin assembly “A” (with spring clip) to hold the tip and protector in place. Counter bores in the sides of the new shanks and adapters provide space for a retainer which engages a groove on the mating pin. All three sizes of ripper shanks, R450, R500 and R550 can use a bucket style pin and retainer “B” which provides superior retention capabilities over the former spring clip version. They are reusable, but the number of tips that they can be reused with depends on the average life of the tips and the abrasiveness of the material being ripped. For optimum reliability, replace the pin and retainer whenever it becomes easy to drive out the old pin or when the pin begins to protrude from the side of the ripper (pin walking).

When severe ripping conditions cause “pin walking” in very short hours or the loss of a tip can cause extensive damage to other equipment, an impact ripper style pin and retainer assembly “C” should be used. The retainer assembly contains a snap ring that locks into the groove on the mating pin. The impact ripper systems are available on the R500 and R550 rippers (D9L, D10N, D10, D11N) and are installed as standard equipment on those sizes of machines leaving the factory.

Care must be taken when installing the impact ripper style pin and retainer assembly. It will take some effort to expand the enclosed snap ring with the tapered end of the pin. Once the snap ring is on the full diameter of the pin, it then becomes very easy to drive the rest of the way. If the pin is hit excessively hard, the snap ring could be damaged or even sheared by the pin groove and result in loss of retention. A final gentle hammer blow is all that is needed to allow the snap ring to drop into the pin groove.

Once in the groove, it takes a severe hammer blow to remove the pin. In doing so, the snap ring is sheared or distorted and cannot be reused. The shoulder of the pin groove also becomes rounded and if reused with a new retainer assembly, retention capabilities are reduced. Impact ripper pins and retainer assemblies, therefore, are not considered reusable.

D8H (46A, 36A, 35A),
D8K (77V, 76V),
D8L (53Y),
D8N (9TC, 1XJ),
D9E (34A, 49A, 50A),
D9G (66A),
D9H (90V),
D9L (14Y),
D9N (1JD, 6XJ),
D10 (84W, 76X),
D10N (2YD, 3SK),
D11N (74Z, 4HK) Track-Type Tractors



(A) Pin assembly with spring clip, (B) Bucket style pin and retainer, (C) Impact ripper style pin and retainer assembly with snap ring

The bucket and impact ripper style pins are much stronger than the former pin assemblies with their drastically reduced center diameter. It was found that even a slightly bent new pin would wedge solidly in the old diameter pin bores, and they would have to be burned out. Consequently, the pin bore diameters on the new ripper shanks are slightly larger. A customer trying to use an old pin assembly in a new shank will find that the pin will not grip inside the pin bore.

PIN & RETAINER ASSEMBLIES FOR RIPPER SHANKS WITH COUNTER BORES

Ripper Size	Model	New Part Number	Description	Former Part Number
R450	D8H, D8K, D8L, D8N, D9E, D9G, D9H, D9N	6Y-3394	Pin (Bucket Style)	
		8E-4743	Retainer (Bucket Style)	
			Pin Assembly (Tip & Upper Protector)	4T-2479
			Pin Assembly (Lower Protector)	6J-8811
		138-6450	Pin (Heavy Duty Style)	
		107-8559	Retainer Assembly (Heavy Duty Style)	
R500	D9L, D10N, D10, D11N MS, D11R MS, D10R	6Y-3909	Pin (Bucket Style)	
		4T-4707	Retainer (Bucket Style)	
		6Y-1204	Pin (Impact Ripper Style)	
		6Y-1202	Retainer Assembly (Impact Ripper Style)	
			Pin Assembly	102-9062 ¹
		138-6508*	Pin (Heavy Duty Style)	
	113-4709	Retainer Assembly (Heavy Duty Style)		
R550	D11N SS, D11R SS	8E-2229	Pin (Bucket Style)	
		8E-2230	Retainer (Bucket Style)	
		9N-4245	Pin (Impact Ripper Style)	
		6Y-1205	Retainer Assembly (Impact Ripper Style)	
			Pin Assembly	6Y-2443
		159-0558	Pin (Heavy Duty Style)	
	134-1809	Retainer Assembly (Heavy Duty Style)		

¹ 3G-0500 Pin Assembly was cancelled and replaced by 102-9062 Pin Assembly.

* Can use 6Y-3909 Pin (Heavy Duty Style).

See Service Magazine SEPD0230 from October 31, 1994, for further information.

CUSTOMER SERVICE TIPS

- *Familiarize yourself with the customer's ripping equipment. Learn where and how it is used.*
- *Proper operating technique is essential for obtaining acceptable tip life, use Handbook of Ripping (AEDK0752) to help ripping operators optimize tip performance.*
- *Find out whether the customer has tip breakage or penetration problems or excessively fast tip wear. There are Caterpillar tips designed to cope with each of these situations.*
- *Use the longest tip possible that does not cause breakage.*
- *Get acquainted with the person who maintains the machines. Determine whether he uses recommended installation and removal procedures (See Service Manual). Tips that are replaced too soon cost money and time. Tips worn past replacement point can cause costly damage to the shank nose.*
- *Are tip and adapter pins and retainers inspected at each change? Pins and retainers in good condition can be reused two or three times. But worn or damaged parts can cause tip or protector loss.*
- *Encourage customers to maintain a sufficient, but not excessive, stock of replacement ripper parts. Your inventory recommendation should take into account both past and anticipated needs.*

Ripper Tips

Ripper tips must provide the customer with three benefits:

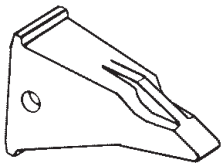
1. Maximum wear life for reduced tip costs
2. Sharp profile for penetration and increased productivity
3. Strength for breakage and resistance

Caterpillar has designed these benefits into two types of large ripper tips:

1. Extreme service ripper tips
2. Economy service ripper tips

Extreme Service Ripper Tips.

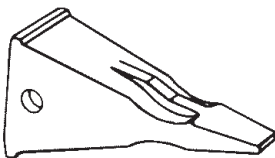
Available in DH-3 steel to fit the D8 through D11 size extreme service adapters. DH-3 tips are available in penetration and centerline configurations. Follow these guidelines when choosing Caterpillar ripper tips:



Penetration Tips

Use in conditions where penetration is difficult. Tips are available in three different lengths in most sizes.

NOTE: Penetration tips should be installed with the rib facing up.

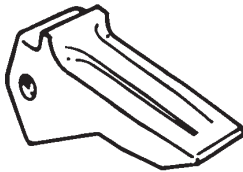


Centerline Tips

Use in abrasive conditions (laminated or stratified materials) where penetration is not a problem. Tips are available in three different lengths in most sizes.

Always use the longest tip available unless excessive breakage occurs.

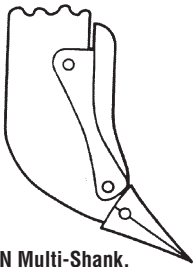
All DH-3 ripper tips are forged for strength and thru-hardened for excellent wear life. The tips are designed with the center-rib to maintain a sharp profile.



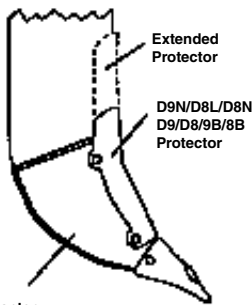
Economy Service Ripper Tips

Cast from alloy steel and thru-hardened for excellent wear life. Available in three lengths for different job conditions. These tips should be used in light, easily fractured material.

1.2 Adapters, Protectors and Retaining Pins



D11N Multi-Shank,
D10, D10N, D9L



Adapter

Adapters

Ripper adapters are welded to shanks, making it possible to convert competitive shanks to Caterpillar GET.

Protectors

Protectors shield the adapters and lower portion of the shank from wear and impact. Failure to use a protector with a large ripper could result in early shank and/or adapter replacement due to wear and damage. Protectors are made from tough DH-2 Steel and thru-hardened for strength and wear resistance.

Pins and Retainers

Tips and protectors on some older, non-current shanks, are held in place by a pin and spring assembly. The spring should be removed if damaged or worn and replaced with a new one. The entire pin assembly can be reused if it's in good condition. The side-pinned design provides for excellent tip and protector retention.

All one piece ripper shanks and all other current ripper shanks and adapters (except 1U-3630 with 1-pin protector) available on production machines and in parts stock no longer use a pin assembly "A" (with spring clip) to hold the tip and protector in place. Counter bores in the sides of the new shanks and adapters provide space for a retainer which engages a groove on the mating pin. All three sizes of ripper shanks, (R450, R500 and R550) can use a bucket style pin and retainer "B" which provides superior retention capabilities over the former spring clip version. They are reusable, but the number of tips that they can be reused with depends on the average life of the tips and the abrasiveness of the material being ripped. For optimum reliability, replace the pin and retainer whenever it becomes easy to drive out the old pin or when the pin begins to protrude from the side of the ripper (pin walking).

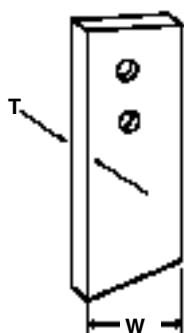
When severe ripping conditions cause "pin walking" in very short hours or the loss of a tip can cause extensive damage to other equipment, an impact ripper style pin and retainer assembly "C" should be used. The retainer assembly contains a snap ring that locks into the groove on the mating pin. The impact ripper systems are available on the R500 and R550 rippers (D9L, D10N, D10, D11N) and are installed as standard equipment on those sizes of machines leaving the factory.

Note: For installation instructions, see service magazine dated October 31, 1994.

Outline

- A) Determine Shank dimensions.
- B) Select ripper shank adapters.
- C) Select adapter protector.
- D) Install System.
- E) Complete Caterpillar Ground Engaging Tools Conversion Report Form (PEEP4210).

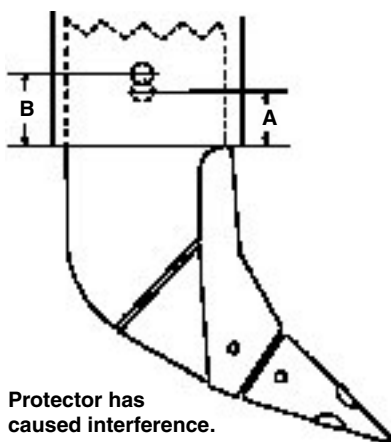
Conversion Guidelines



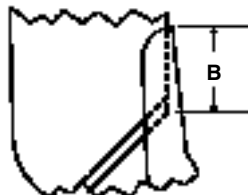
1. Measure the width and thickness of the competitive shank where the adapter will be welded to the shank.
2. Select the adapter that will best fit the customer's application based upon the width and thickness measurements.

ADAPTER DIMENSIONS

Adapter Part No.	Used On Caterpillar Machine	Width (W)	Competitive Shank Thickness (T)
104-9279	D11N, D11R	16" (406 mm)-18" (457 mm)	3.5" (89 mm)-4.4" (110 mm)
1U-3630	D9L, D10, D10N	12.5" (317.5 mm)-16" (406 mm)	3" (76.2 mm)-4" (101.6 mm)
8E-8418	D8, D8L, D9	12.5" (317.5 mm)-14" (355.6 mm)	2" (50.8 mm)-3" (76.2 mm)
103-8115	D9L, D10, D10N, D10R	12.5" (317.5 mm)-14" (355.6 mm)	3" (76.2 mm)-4" (101.6 mm)



Protector has caused interference. Pin holes do not line up. (A is less than B.)



3. Protectors may restrict the use of some shank pin holes. If the distance from the ripper shank pin hole down to the top of the protector (see A in illustration) is less than the distance from the socket pin hole to the bottom of the socket (see B in illustration) the protector will interfere with the socket. (The socket is the ripper assembly opening into which the shank fits.)

To avoid interference, use a higher pin hole or trim the top of the protector.

The following chart, shows the length the protector extends above the adapter/shank weld. (No interference should occur with economy service protectors).

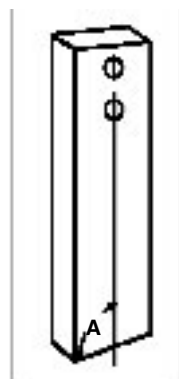
EXTENSION OF PROTECTOR ABOVE ADAPTER/SHANK WELD

Part No.	Protector	Area Extending Above The Weld
104-9279	9N-4621	7.5" (190 mm)
1U-3630	1U-3644	7.5" (190 mm)
8E-8418	6J-8814*	2.3" (59 mm)
	1U-4410	12.5" (318 mm)
103-8115	9W-8365	7.5" (190 mm)
	6Y-8960	

*8E-1848 sharpened protector can be used where shank bluntness reduces ripping effectiveness.

Installation

These installation guidelines are to be used with Special Instruction SEHS7888 entitled "Installation of Ripper Shank Adapters." Information not contained in the Special Instruction is included here. Follow all pre-heat temperature guidelines. These temperatures have been recommended to reduce the possibility of cracks in the shank and adapter.



1. Select the proper cut-off angle. The chart below lists the cut-off angles necessary to achieve a ripping angle of 50 degrees. If a different ripping angle is desired, vary the cut-off angle.

Adapter Part No.	Shank Cut-off Angle (A°)
104-9279	135°
1U-3630	135°
8E-8418	112°
103-8115	135°

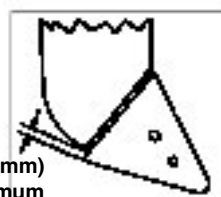


FIGURE 1

2. Cut the shank.
3. If the adapter is wider than the shank, Caterpillar recommends that it be no more than a 0.5" (12.7 mm) difference. Fill in this area with weld.

If the shank is wider than the adapter, any difference up to 0.5" (2.7 mm) should be filled in with weld. If the difference is greater than 0.5" (12.7 mm), taper the shank to the adapter at a 3:1 ratio. For example, if the shank is 1" (25.4 mm) wider than the adapter, the taper on the shank should be 3" (76.2 mm) in length (see Figure 2).

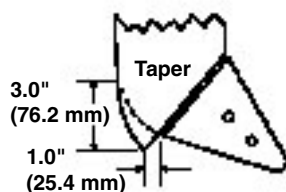


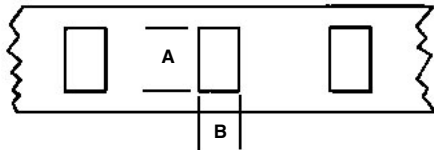
FIGURE 2

4. Weld the adapter in place.
5. Grind all welded areas smooth. Rough weld surfaces may cause early failure.

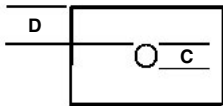
Outline

- A) Determine ripper socket dimensions.
- B) Select ripper shank.
- C) Install system.

Conversion Guidelines



(view from bottom of ripper tool bar)



(view from side of ripper tool bar)

1. To convert a competitive ripper to a small Cat ripper shank you need to measure the following:
 - A) socket width
 - B) socket thickness
 - C) pinhole diameter
 - D) top of socket to pinhole (to assure that the shank will at least be flush with the top of the socket when in top shank pin hole.)
2. Use these measurements to select the Cat shank that best fits the competitive ripper. The following chart will show you the Cat shank that most closely fits the competitive ripper socket.

LARGE RIPPER SHANK DIMENSIONS — Inches (mm)

Shank Part No.	Shank Type	Width	Thickness	Pin Hole Diameter	Top of Shank to 1st Pin Hole
8E-1466	1	17.72 (450.0)	4.33 (110.0)	4.49 (114.0)	8.66 (220.0)
8E-8416	1	14.00 (355.6)	3.50 (89.0)	4.49 (114.0)	8.66 (220.0)
8E-8417	1	14.96 (380.0)	3.50 (89.0)	4.49 (114.0)	8.66 (220.0)
8E-8412	1	15.75 (400.0)	4.00 (102.0)	4.49 (114.0)	7.87 (200.0)
8E-5348	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.25 (108.0)
8E-0467	1	17.72 (450.00)	4.33 (110.0)	4.49 (114.0)	8.66 (220.0)
7J-1793	1	14.00 (355.6)	3.5 (89.0)	3.70 (94.0)	4.26 (108.2)
8E-8411	1	14.96 (380.0)	3.50 (89.0)	4.49 (114.0)	5.90 (150.0)
8E-1845	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.25 (108.0)
8E-1844	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.25 (108.0)
8E-8414	1	14.00 (355.6)	3.50 (89.0)	4.49 (114.0)	8.66 (220.0)
7J-1792	1	14.00 (355.6)	3.50 (89.0)	3.70 (94.0)	4.26 (108.2)
8E-5347	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.25 (108.0)
4T-8989	1	15.75 (400.0)	4.00 (102.0)	4.49 (114.0)	4.00 (101.6)
8E-5342	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.25 (108.0)
8E-8415	1	14.00 (355.6)	3.50 (89.0)	4.49 (114.0)	4.00 (101.6)
8E-5345	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	4.00 (101.6)
8E-5346	1	13.00 (330.2)	2.94 (75.0)	3.70 (94.0)	3.15 (80.0)
7J-2514	2	9.66 (245.3)	2.94 (75.0)	3.06 (77.7)	3.50 (89.0)
8E-5341	1	13.00 (330.0)	2.94 (75.0)	3.70 (94.0)	3.15 (80.0)
7J-2515	2	8.75 (222.2)	2.94 (75.0)	3.06 (77.7)	3.25 (82.5)
7J-2459	1	9.00 (228.6)	2.94 (75.0)	2.62 (66.5)	4.00 (101.6)

DIMENSIONS OF LARGE RIPPER SHANKS
All Dimensions in Inches and (mm)

Total Assembly Length	Width	Thickness	Part Number	Number of Holes	Top to First Pin Hole	Top to Second Pin Hole
190.00 (4826)	17.72 (450)	4.33 (110)	4Z-9312*	3	20.07 (510)	50.08 (1272)
175.00 (4445)	15.75 (400)	4.00 (102)	4Z-5346*	9	7.87 (200)	20.47 (520)
175.00 (4445)	15.75 (400)	4.00 (102)	4Z-9108*	8	7.87 (200)	83.46 (2120)
164.00 (4166)	17.72 (450)	4.33 (110)	4Z-9196*	6	10.35 (263)	20.20 (513)
164.00 (4166)	17.72 (450)	4.33 (110)	4Z-8814*	9	8.66 (220)	52.75 (1340)
159.3 (6042)	14.96 (380)	3.54 (90)	128-5523	6	8.66 (220)	22.64 (575)
129.60 (3292)	17.72 (450)	4.33 (110)	104-9275	3	8.66 (220)	30.71 (780)
126.10 (3203)	15.75 (400)	4.00 (102)	4Z-9314*	2	4.33 (110)	25.35 (644)
119.50 (3035)	15.75 (400)	4.00 (102)	4Z-8849*	4	4.33 (110)	25.39 (645)
119.50 (3035)	15.75 (400)	4.00 (102)	105-9691*	2	4.25 (108)	37.20 (945)
118.00 (2997)	15.75 (400)	4.00 (102)	109-3135*	3	8.66 (220)	18.90 (480)
118.00 (2997)	14.96 (380)	3.50 (89)	8E-8417	3	8.66 (220)	26.00 (660)
116.50 (2959)	13.00 (330)	2.94 (75)	4Z-9018*	5	4.25 (108)	17.16 (436)
111.20 (2824)	14.00 (356)	3.50 (89)	8E-8416	3	8.66 (220)	26.00 (660)
110.70 (2812)	15.75 (400)	4.00 (102)	8E-8412	4	7.87 (200)	20.47 (520)
110.43 (2805)	13.98 (355)	3.54 (90)	109-9095	2	8.66 (220)	23.62 (600)
110.43 (2805)	14.00 (356)	3.50 (89)	109-9114	3	13.50 (343)	33.54 (852)
108.70 (2761)	13.00 (330)	2.94 (75)	8E-5348	3	4.25 (108)	25.12 (638)
107.60 (2733)	17.72 (450)	4.33 (110)	104-9277	4	8.66 (220)	19.68 (500)
107.00 (2718)	14.00 (356)	3.50 (89)	4Z-8937*	4	3.93 (100)	22.05 (560)
106.30 (2700)	14.00 (356)	3.50 (89)	107-3486	6	4.26 (108)	16.26 (413)
98.80 (2510)	15.75 (400)	4.00 (102)	118-2140*	3	5.90 (150)	13.98 (355)
98.80 (2510)	14.96 (380)	3.50 (89)	8E-8411	3	5.90 (150)	19.88 (505)
96.80 (2459)	13.00 (330)	2.94 (75)	8E-5340	3	4.25 (108)	28.27 (718)
91.80 (2332)	13.00 (330)	2.94 (75)	8E-5339	3	4.25 (108)	15.87 (403)
91.50 (2324)	14.00 (356)	3.50 (89)	8E-8414	3	8.66 (220)	17.32 (440)
90.75 (2305)	14.00 (356)	3.50 (89)	114-4503	3	10.67 (271)	22.24 (565)

* If more than one of the same part is desired, it must be ordered as it is not in stock.
Delivery time is approximately 30 days within North America.

(Continued on next page)

DIMENSIONS OF LARGE RIPPER SHANKS — Continued
All Dimensions in Inches and (mm)

Total Assembly Length	Width	Thickness	Part Number	Number of Holes	Top to First Pin Hole	Top to Second Pin Hole
84.30 (2141)	14.00 (356)	3.50 (89)	107-3485	4	4.26 (108)	16.26 (413)
79.50 (2019)	13.00 (330)	2.94 (75)	8E-5347	3	4.25 (108)	16.26 (413)
77.85 (1977)	15.75 (400)	4.00 (102)	8E-8413	2	4.00 (102)	15.00 (381)
75.20 (1910)	13.00 (330)	2.94 (75)	8E-5342	3	4.25 (108)	16.26 (413)
71.60 (1819)	14.00 (356)	3.50 (89)	8E-8415	2	4.00 (102)	13.78 (350)
69.40 (1763)	13.00 (330)	2.94 (75)	8E-5345	2	4.00 (102)	14.00 (356)
63.40 (1610)	13.00 (330)	2.94 (75)	8E-5346	2	3.15 (80)	13.00 (330)
59.55 (1513)		2.94 (75)	7J-2514	4	3.50 (89)	9.00 (229)
59.00 (1499)	13.00 (330)	2.94 (75)	8E-5341	2	3.15 (80)	13.00 (330)
52.95 (1345)		2.94 (75)	7J-2515	4	3.25 (83)	8.25 (210)
49.55 (1259)	9.00 (229)	2.94 (75)	7J-2459	2	4.00 (102)	13.00 (330)

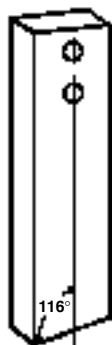
* If more than one of the same part is desired, it must be ordered as it is not in stock.
 Delivery time is approximately 30 days within North America.

SMALL RIPPER SHANK DIMENSIONS — Inches (mm)

Shank Part No.	TYPE - Straight or Curved	Width	Thickness	Pin Hole Diameter	Top of Shank to 1st Pin Hole
7J-6671	S	6.88 (174.8)	2.91 (73.9)	2.18 (55.4)	6.00 (152.4)
9W-7382	S	9.00 (228.6)	2.91 (73.9)	3.14 (80.0)	3.43 (87.1)
9J-3139	S	6.88 (174.8)	2.91 (73.9)	2.18 (55.4)	4.75 (120.7)
9J-8923	C	6.88 (174.8)	2.91 (73.9)	2.18 (55.4)	4.75 (120.7)
9J-6586	S	5.48 (139.2)	2.29 (58.2)	1.93 (49.0)	4.00 (101.6)
9J-8913	C	5.48 (139.2)	2.29 (58.2)	1.93 (49.0)	4.00 (101.6)
1U-1257	C	4.29 (109.0)	1.97 (50.0)	1.31 (33.3)	3.94 (100.1)
8J-5299	S	2.95 (74.9)	1.38 (35.0)	1.14 (29.0)	2.00 (50.8)

3. Follow these guidelines to ensure a good fit:

- A) The socket width should not exceed the shank width by more than 0.5" (12.7 mm).
- B) The socket thickness should not exceed the shank thickness by more than 0.25" (6.35 mm).
- C) The ripper's pin diameter should not exceed the shank's pinhole diameter by more than 0.05" (12.7 mm).
- D) The distance from the first pinhole to the top of the shank should be equal to or greater than the distance from the pinhole to the top of the socket.



Conversion Guidelines for Repair Adapters and Noses

For rippers, there is one repair adapter and four repair adapter noses available for converting competitive shanks to Caterpillar ripper components. The following dimensions are needed to make the conversion:

		Used on Caterpillar Machine	Competitive Shank Width	Competitive Shank Thickness
Repair Adapter Nose	103-8114	D11, D10, D9L	10.83"-12.80" (275 mm-325 mm)	3.94" (100 mm)
Repair Adapter Nose	4T-9776 9U-9694	D9, D8 D8R, D8R	7.28"-9.25" (185 mm-235 mm)	3.00" (76.2 mm)
Repair Adapter Nose	8E-7350	983, D7, D6, D5	6.88"-9.00" (174.8 mm-228.6 mm)	2.91" (73.9 mm)
Repair Adapter	9W-7488*	983, D7, D6, D5		
Repair Adapter Nose	8E-7300	963, 955, 951, 941, 14, 140, 130, 12, 12D	5.48" (139.2 mm)	
Repair Adapter	107-3361**	D10N, D11N MS D10R, D11R MS		

* Use repair adapter 9W-7488 when more shank material is needed than is available in 8E-7350.
Cut-off angle for 9W-7488 is 116°, as shown at left, to achieve 50° ripping angle.

** Two pin protector.

Other Conversion Opportunities

Caterpillar ripper components may be used on attachments other than rippers. Consider the possibilities for using ripper components with excavator ripper attachments, blades and root rakes, logging clamps, grapples, special application buckets, etc....

If you complete a conversion on any of these unique pieces of equipment, please let us know. Send a letter and conversion details to:

GET Product Center
Caterpillar Inc.
901 W. Washington St.
East Peoria, IL 61630-4145

