

# DRIVING AUTO REPAIRS FORWARD

### EMPOWERING AUTO TECHNICIANS SINCE 1979

Dent Fix Equipment and Spitznagel Specialty Tools are built to last. Everyone here at Dent Fix is proud of the company's reputation for the highest quality products and the innovative solutions they provide. Since 1979, Dent Fix Equipment has supplied tools and solutions that help Collision Repair Professionals complete the job at hand more efficiently with a higher quality result. Product satisfaction and customer service have been our highest priorities since day one.

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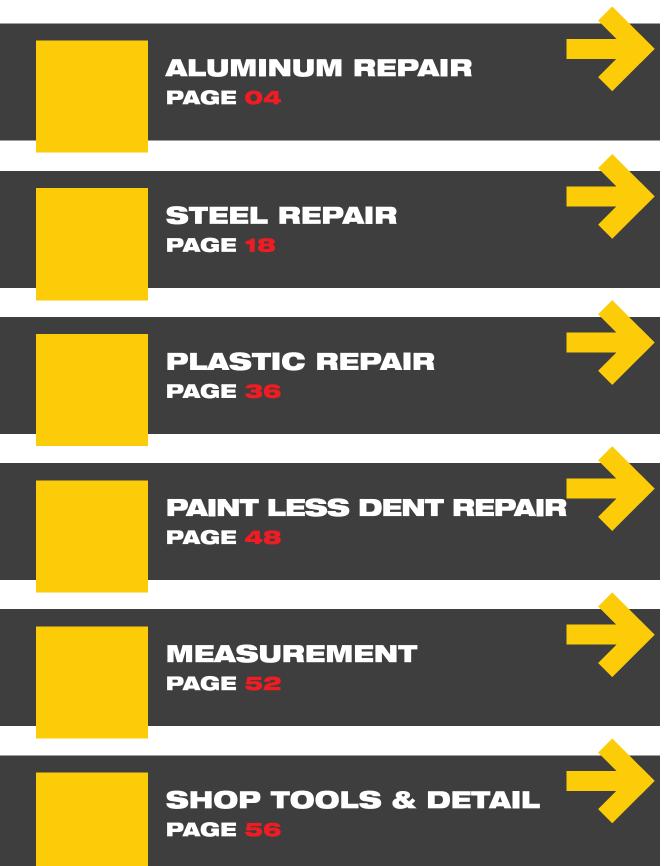
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# **TABLE OF CONTENTS**



**CONSUMABLES PAGE 60** 

04 ALUMINUM WWW.DENTFIX.COM

# WORKING WITH ALUMINUM

# UNDERSTANDING THE "WHY" IS KEY TO LEARNING HOW TO REPAIR ALUMINUM

# 5 THINGS TO REMEMBER

Repairing aluminum panels presents special challenges for auto repair facilities. At Dent Fix, we've identified five critical areas of concern to keep in mind when performing aluminum panel repairs. These include

- 1. Galvanic Corrosion
- 2. Softness of aluminum
- 3. Work Hardening
- 4. Heat and Conductivity
- 5. Oxidation.

### 1. GALVANIC CORROSION

Galvanic corrosion is an electrochemi-

cal process in which one metal corrodes preferentially to another when both metals are in contact in the presence of an electrolyte like moisture. This is an accelerated corrosion due to the electric charge created in the process.

In the automotive repair center, galvanic corrosion occurs when an aluminum panel is exposed to the shop environment containing steel shavings, dust, and particulates carried over from steel panel and frame repairs. All shops have a degree of humidity in the air, and this moisture is the electrolyte which accelerates the corrosion between the steel dust and the aluminum panel. The technician can also bring dust particles on gloves and clothing which can end up on an aluminum panel. Steel contaminants will be present on tools, and certainly contained in grinding discs or sanding abrasives. These particles can be transferred to and potentially embedded in the aluminum panel.

The result is corrosion on the aluminum panel which negatively impacts the refinish process. This contamination is often invisible but is present nonethe-

WWW.DENTFIX.COM ALUMINUM (05

less. It can manifest itself through primers, fillers, and paint not adhering to the panel, causing lifting and other paint related issues incurring costly redoes and repairs.

In an ideal situation, all aluminum repairs are conducted in an isolated environment where there are no steel operations present and are performed with a separate and dedicated set of tools and abrasives.

An exposed aluminum panel can be protected with mask paper when not in use to prevent dust from settling on the panel. The minimum OEM requirements are to isolate the work area with a vinyl curtain wall to divide areas where aluminum and steel may cross contaminate. In addition, it necessary to obtain a specified set of specialty tools and maintain an isolated common tool set. Keep in mind that aluminum dust can also migrate back to steel panels to corrode in the same manner, causing similar corrosion and finish issues.

The Aluspot Dent Repair System provides a solution with a specifically designed set of tools for aluminum

repair, contained in an isolated storage tool box, intended to prevent contamination and thus insure the integrity of the repair process.

### 2. SOFTNESS

Consideration must be given when working with aluminum due to the softness of the material itself. Aluminum is too soft to be used on it's own, so it is alloyed with magnesium or silicon for added strength in body panels. Structural and cast pieces are alloyed with zinc. The 7000 series alloy contains zinc, the 6000 series contains silicon, and the 5000 series alloy contains magnesium. The Aluspot system features magnesium and silicon studs for use on panels corresponding to the alloyed material to ensure a proper weld and bond to the panel.

The softness of aluminum dictates that no sandpaper coarser than 80 grit be used to avoid gouging. The Aluspot system is equipped with a special low tooth per inch body file to prevent caking. Keeping hammers and dollies free of nicks and sharp edges is also critical, as these can damage soft aluminum panels and effect finish time.

ALUMINUM WWW.DENTFIX.COM

Always use a hammer-off technique when working aluminum panels to prevent pinching and over-stretching of the material.

### 3. WORK HARDENING

Aluminum is work-hardened, meaning it becomes harder with each forming process applied to it. It is first hardened when the panel is originally stamped, but the process occurs again when the panel is damaged. Reshaping the panel will cause the panel to over harden and then crack and break, Aluminum has a work hardened memory that makes it want to stay in its current state. Steel on the other hand has return memory. Steel wants to spring back, while aluminum will fight to stay in its current shape. Heat must be applied to erase this memory and then the work of panel repair can take place to reset the memory into a new shape.

### 4. HEAT & CONDUCTIVITY

Traditional transformer based steel stud welders, do not create enough heat fast enough to weld on aluminum due to its high heat flow characteristics. The Aluspot system includes a Capacitor Discharge stud welder, which is

designed to release far more electrical energy much quicker than a steel stud welder.

Attempting to pull the panel back into shape without applying heat will over-harden the panel and it will crack and break. Technically, aluminum will be workable in the 400-570°F range. We do see movement in temperatures below 400°F and over 570°F will anneal or permanently soften the aluminum.

Manufacturers have specific temperature ranges that they recommend. For example, Ford advises heating panels to no more than 400°F to protect any bonding agents, glues, or sound deadener on the back side of the panels from debonding or failure. Aluminum will melt at 1200°F with no color change indication. It is critical to maintain temperature control. The Dent Fix Aluspot system includes a heat gun featuring controllable temperature output. Keeping in mind that aluminum has excellent heat conductivity, it will rapidly flow the heat away from the target work area you are heating. This requires applying heat at a higher temWWW.DENTFIX.COM ALUMINUM 07

perature than the desired range because of the rapid cooling properties of aluminum. For this reason, the system includes an emissivity-specific infra-red thermometer, which works on reflective surfaces, to accurately monitor the temperature of the work area and keep the temperature of the work in the desired range.

**HINTS:** The stud should be welded at a perpendicular or vertical position to the panel to ensure a complete fusion of the pin to the aluminum. The aluminum stud welder is designed to inject a high-heat rapidly to allow the aluminum stud to fuse with the molten aluminum puddle before the puddle dissipates the heat. Voltage adjustment allows for variations in the thickness of the aluminum sheet and needed pull strength.

### 5. OXIDE

Oxide is basically how aluminum rusts. It forms a protective coating on the aluminum that can be seen when the aluminum changes from the shiny surface to the slightly dull silver color. Again, aluminum melts at 1200°F and does not change color as it melts. The oxide, however, melts at 3600°F. The

Capacitive Discharge welder is powerful enough to power through the oxide. The problem is the oxide layer contaminates the stud weld and causes a larger spark. This greater spark removes critical molten aluminum that the pin will need to fuse with. The problem is easily solved with simple but essential stainless steel brushes - a shoe handle brush for general cleaning and a toothbrush for more intensive cleaning of the oxide. The technique to remove oxide before stud welding is to brush the area vigorously in a back-and-forth motion, and in the same direction for the final strokes to keep the oxide out of the weld area.

**HINTS:** The 3 keys to a proper stud weld are:

- Perpendicular Stud Pin
- Contaminant Free Weld
- Start Weld at Level 3 or 85 volt

OS ALUMINUM WWW.DENTFIX.COM

### ALUSPOT EXT DF-900DX/E

- Upgraded Everything in 900DX plus: power bank, heat gun holster, & 5 drawers
- Nylon Dollys + Solid Aluminum Hammers
- Isolation Prevent contamination
- Nested Tools Organized & accountable
- Innovative Industry exclusives
- Trusted Repairing aluminum since '06

# 5 YEAR WARRANTY MADE IN USA ORIGINAL

# **110**v

High Capacitor
Discharge Welder

### **INCLUDED**



WWW.DENTFIX.COM ALUMINUM 09



VOLTAGE	DRAWERS	WEIGHT
110v	5	280 lbs.

10 ALUMINUM WWW.DENTFIX.COM

### ALUSPOT DELUXE DF-900DX

- Complete Everything needed
- Isolation Prevent contamination
- Nested Tools Organized & accountable
- Innovative Industry exclusives
- Trusted Repairing aluminum since '06
- 3 Drawers

# 5 YEAR WARRANTY MADE IN USA ORIGINAL

# 110v

High Capacitor Discharge Welder

### **INCLUDED**



WWW.DENTFIX.COM ALUMINUM 11



VOLTAGE	DRAWERS	WEIGHT
110v	3	220 lbs.

### ALUMINUM HAMMER SET **DF-AH714**

- Solid Aluminum Head Avoid cross contamination
- Lightweight More forgiving strike
- Safer Less likely to stretch aluminum panel
- Maintenance free
- Molded tool case





Pick & Finishing (40mm Round) DF-AH714A

PERFECT FOR ALUMINUM AVOID GALVANIC CORROSION **GENUINE HICKORY HANDLES** 

### **NYLON DOLLIES DF-AB712**



Profile Arranging Block DF-AB712A

Crease Alignment Tool

DF-AB712B

**6113** 





RxR Dolly



DF-AB712H



**Block Dolly** DF-AB712I



**SOLID POM NYLON NON-CORROSIVE** 



PIECE KIT

- Non-Corrosive Perfect for Aluminum Repair
- Non-Marking When working with metal
- Molded Case Tools kept organized & clean



Wedge Dolly DF-AB712L



Toe Dolly DF-AB712G



Double End Dolly DF-AB712J



Hand Flat + Curved: DF-AB712K



Curved Dolly: DF-AB712E





DF-AB712D

WWW.DENTFIX.COM ALUMINUM 13



### HAMMER-ON VS HAMMER-OFF TECHNIQUE

When used properly, the two metal working techniques are very effective at repairing aluminum panels. The hammer-off dollying technique is used when first returning the dent to the original shape. Use the first in, last out rule which means to work the dent in reverse, starting outside of the dent and working towards the point of impact. The tools best suited for hammer-off are highly polished steel hammers and rubberized steel core (DF-AB711). hammer-on is used by experienced technicians with lightweight aluminum hammers (DF-AH714) and Nylon dollies (DF-AB712) when smoothing the metal into its final position. Light tapping is used to finish. Aluminum can easily stretch too thin beyond repair so use extreme caution.





### RUBBERIZED DOLLIES DF-AB711



# RUBBER SHELL STEEL CORE



PIECE KIT

- Rubberized Absorbs harsh impacts
- Steel Core Dense center, good heft
- Case Dollies are isolated & protected

ALUMINUM CAPABLE	COATING
YES	RUBBER
CORE	WARRANTY
STEEL	90 DAYS

4 ALUMINUM WWW.DENTFIX.COM

### SELF PIERCING RIVETER DF-SPR67



- Pneumatic Constant Pressure
- Pressure Dial & Speed Controls
- Universal car body riveting system
- SPR, Extracting, Flow Form, Hole Punch
- OEM Repair Method

# Pneumatic Operation Install & Remove Adjustable Pressure

# 8 Tons

Pressure





WWW.DENTFIX.COM **ALUMINUM** 

### SPR PUSH/PULL • Unique Push/Pull System **DF-SPR69**

- Pneumatic Can start pressure
- Pressure Dial & Speed Controls
- SPR, Extracting, Flow Form, Hole Punch
- Universal car body riveting system
- OEM Repair Method

# **PNEUMATICALLY PUSHES AND PULLS THE PISTON**

PSI



WWW.DENTFIX.COM ALUMINUM 17



PSI	BAR CAPACITY	TOOL WEIGHT
90	8	13 lbs.

18 STEEL WWW.DENTFIX.COM

# MAXI STEEL DENT STATION DF-505/220V

- Now able to weld key tabs
- Ultimate multiple steel dent pulling tool
- Just WELD > PULL > TWIST
- Welds pins, pulling rods, and wiggle wire
- Produces a cleaner & better panel repair
- Increase efficiency & productivity
- No burn through

# MADE IN AMERICA 5 YEAR WARRANTY THE ORIGINAL

220

**VOLT** 





### STEEL











### Kit Includes:

220v Maxi Unit
Leverage Puller
x2 Pulling Rods
x2 Slide Hammer Rods
Strike Weight
Shrinking Electrode
Stud Pin Electrode
Wiggle Wire Welding Tip
Eyelet Electrode
NEW Key Tip
Nine-Finger Bear Claw
Four-Finger Bear Claw
x50 Sample Stud Pins
1lb of Wiggle Wire
Grounding Magnet

### **Optional Upgrades:**

Machine Stand (DF-509) Ding Massager (DF-505DM)

POWER CABLE

18 FEET

PHASE

SINGLE

WELDING CARLE

9 FEET

# HAMMERHEAD STEEL DENT STATION DF-595ii

- Replace your stud welder
- Higher productivity with better results
- Same great quality, same essential tools
- It's like being able to pull a dent with your hand
- Decreases repair time
- Use with 30 amp breaker

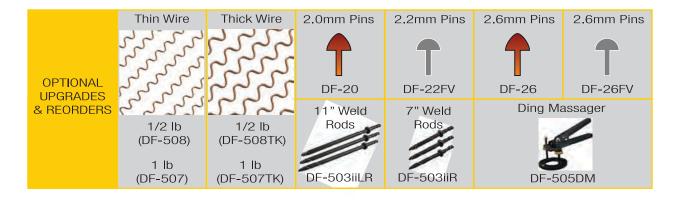
# MUST HAVE TOOL SIMPLE TO USE 1 YEAR WARRANTY

110

**VOLT** 

Strike Weight **Pulling Rods** Slide Hammer Leverage 3-Finger Claw **I**NCLUDED Rods Puller WITH DF-595ii HAMMER-**HEAD** 11" DF-595iiLP 1lb Wiggle Grounding Sample Pins Tip Adapter Shrinking Tip Wiggle Wire Magnet Wire DF-GM

# SAME GREAT TOOL, DIFFERENT NAME



STEEL WWW.DENTFIX.COM



### Kit Includes:

Pin/washer Tip Wiggle Wire Tip Shrink Tip 1 lbs Wiggle Wire 3-Finger Claw Slide Hammer Rod & Weight Short Pull Rod Leverage Puller (DF-595iiLP) Ground Magnet (DF-GM)

# **Optional Upgrades:** See Previous Page

VOLTAGE	BREAKER	WELDING CABLE
110v	30 amp	6 ft

### STEEL BRIDGE PULLER DF-505BP

- Standard bridge with optional interchangeable parts
- Includes: Standard Leg Set with Pads, Wheel Puller, & 3' Bar

Optional Parts (Purchased Separately):			
DF-505BP/04	Optional 4' Longer Bar		
DF-505BP/05	Optional 5' Longer Bar		
DF-505BP/07	Single Pad Adjustable Leg		
DF-505BP/08	Double Pad Adjustable Leg		
DF-505BP/09	Wiggle Wire 9-Claw Puller		

# CUSTOMIZABLE & ADJUSTABLE CAN HOLD PULL IN PLACE SIMPLE ONE MAN OPERATION





### MASSAGE STEEL PULLS

PIECE

1

- Adjustable depth
- Fine finish work
- Weld the rod slides easily in

Uses DF-503 short weld rod (Not Included)







STEEL WWW.DENTFIX.COM

# **MULTI-HEAD HAMMER SET DF-HK111**



WWW.DENTFIX.COM STEEL 25

### FENDER PULLER DF-HD0140

- Hinged hooks pivot
- Shapes to the curve of the fender
- Pulls 1.5 ton
- Pulls core supports
- Reshapes damaged fenders

### RING HAMMER DF-903

- 3 hammer heads in 1 tool
- Easy to use multi-tool
- Fits into the first knuckle
- Solid hit from small tool
- Hi-vis red color







26 STEEL WWW.DENTFIX.COM

### Spot Weld Bits for Normal Drill





DF-1786VP Variety Bits Hardest Coating Available Titanium Carbo-Nitride (HSSE-TiCN) coated drill bit variety pack. Includes one 6mm, three 8mm, and one 10mm. Quantity of 5 bits total.



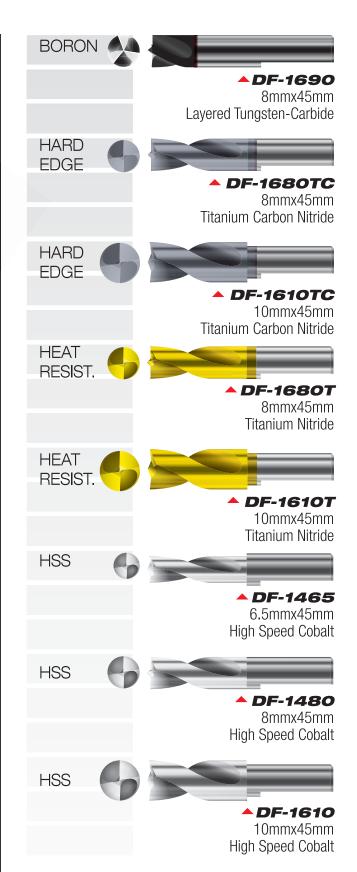
### DF-1780T Bit 8x80mm

Titanium Nitride Drill Bit
Specifically designed for the rigors of
spot weld drilling, German made bits
can be used with any 3/8-inch drill.
Centering nib prevents bit from walking.



### DF-1780 Bit 8x80mm

High Speed Cobalt Drill Bit Specifically designed for the rigors of spot weld drilling, German made bits can be used with any 3/8-inch drill. Centering nib prevents bit from walking.



3" Clamp

# **SPOT ANNIHILATOR DF-15DX**

- Depth Adjustable
- Smart Pressure Valve
- No Slamming
- Prevent bit breakage
- Boron steel capable
- Pneumatic cutting pressure









### **Optional Upgrades:**

6" Mega C-Clamp (DF-SPD48M) Boron Killer 8mm Bit (DF-1690) HSS 6.5mm Bit (DF-1465) HSS 10mm Bit (DF-1610) Hard Edge 10mm Bit (DF-1610TC) Cup & Screw (DF-SPD66A)



Spot Weld Drill (DF-15B)
HSS 8mm Bit (DF-1480)
Heat Resist. 8mm Bit (DF-1680T)
Hard Edge 8mm Bit (DF-1680TC)
Heat Resist. 10mm Bit (DF-1610T)
Pneumatic Oil Kit
Blow Molded Case

### WARRANTY

1 YEAR

#### AIR PRESSURE

90 PSI

### **ROTATIONAL SPEED**

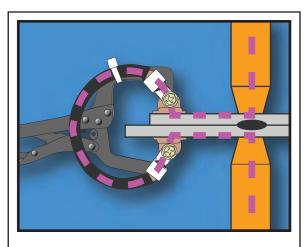
1,000 RPM

28 STEEL WWW.DENTFIX.COM

### SHUNTING PLIERS DF-SP360

- Required by I-CAR for STRSW E-coated panels
- Shunts the current flow
- Thick copper wire and pads
- Save valuable E-coating





# Why Use Shunting Pliers?

Squeeze-type resistance spot welding (STRSW) sometimes requires additional measures, in the form of shunting the current flow, to create a successful spot weld.

Conductive coatings on steel, such as zinc or weld-through primer increase the resistance but a successful weld can be accomplished. Non-conductive coatings on steal, such as E-Coat (a corrosion-resistant primer applied to parts by the manufacturer) inhibit the completion of the spot weld.

The E-Coat on the mating surfaces can be saved when using STRSW with the use of the Dent Fix Shunting Pliers (DF-SP360). Simply remove the coating from only the outside surfaces, position the shunting clamp at the spot weld site, and the spot weld is made at the adjacent site. The current chooses the path of least resistance when confronting the non-conductive E-Coat, the shunting pliers facilitates the electrical current from one side to the other. The E-coat at the mating surface burns away. The process is very quick and despite the fact most of the current flows between the electrode tips the current detour was brief but necessary.

WWW.DENTFIX.COM STEEL 29

### MICRO WELD CLAMPS DF-MC201

- Generates strong clamping force
- Great low profile
- Secure for pinch and spot welds
- Screw top close to secure
- 4 clamps per pack

# SURGE PROTECTOR DF-601A

- Protects electronics from surges
- For 12 & 24 volt systems
- Lifetime warranty
- Made in the USA
- DO NOT USE ON HYBRIDS







STEEL WWW.DENTFIX.COM

### ELIMINATOR DF-700DX

- Removes undercoating
- Wide decal remover
- Fiber Discs attachments
- Decal eraser will not burn paint
- Strip rust off with fine brush
- Belt driven and pneumatic

# REMOVES RUST REMOVE DECALS DIFFERENT WHEELS

3,500

**RPM** 



ORIGINAL
DF-705 Decal Eraser
Softer
Will not burn the paint.
The perfect tool for cleanup of moldings.



TOUGHER
DF-705D Offset Eraser
More Durable
Perfect for the removal of large
decals such as those found on
delivery vans.



DF-702C Coarse Brush
The flex allows the brushes to
compress in tight corners and
contour themselves over lipped
edges and curved corners.
Makes fast work of bed liner.



If you don't have one you need one. With the Course brush, undercoating and seam sealer are stripped away easily and cleanly, right down to the bare metal. The brushes do not clog up. Remove rust and scale. The fine brush is perfect for getting paint out of tight spaces. The geared Decal Eraser will strip a 2 foot by 2 foot decal in less than 2 minutes with no paint burn. The eraser is ideal for removing the adhesive backing on moldings and badges. The tool carries a year warranty and our guarantee of complete satisfaction.



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#### REQUIRED PRESSURE

90 PSI (-6 bar)

#### AIR INLET

1/4" NPT

#### AIR CONSUMPTION

4 CFM

#### REQUIRED HOSE SIZE

3/8" ID (9.5mm)

### FREE SPEED

3,500 RPM

### TOOL WEIGHT

2.6 lbs (1.2Kg)

### RIGHT ANGLE DF-701

- Compact design
- Works best in tight areas
- Remove thick seam sealer
- Undercoating can be removed
- Decal wheel & 3 coarse brushes

### LONG GRINDER DF-19315CR

- Reach into corners to grind
- Angled face
- Extra long handle
- Shield rotates left and right
- Fits into tight work spaces
- 6.3 bar, 90 PSI







WWW.DENTFIX.COM STEEL 33

### FINGER SANDER DF-FBS16

- Gets into tight spaces
- Interchange belt
- Sand down a weld
- Grind rough metal spots
- 328x10mm belt

### 6 IN 1 PUNCH DF-MP050K

- Punch & Flange Kit
- Pneumatic operation
- 4.0, 5.5, 6.5, & 8.0mm Punch
- 8.0mm Deep Punch/Flange
- Blow molded case





STEEL WWW.DENTFIX.COM

### SLOT PLIERS DF-SP820

- Produces 8x20mm slot punch
- Ideal for MIG brazing
- Throat depth of 30mm
- Comfort grip
- Up to 18 gauge steel
- Online only @ DentFix.com

### PUNCH/FLANGE DF-516PF

- Punches 8mm holes
- Up to 18 gauge steel
- Swivel head for flanging
- Also available in 4.5mm holes (DF-316PF)





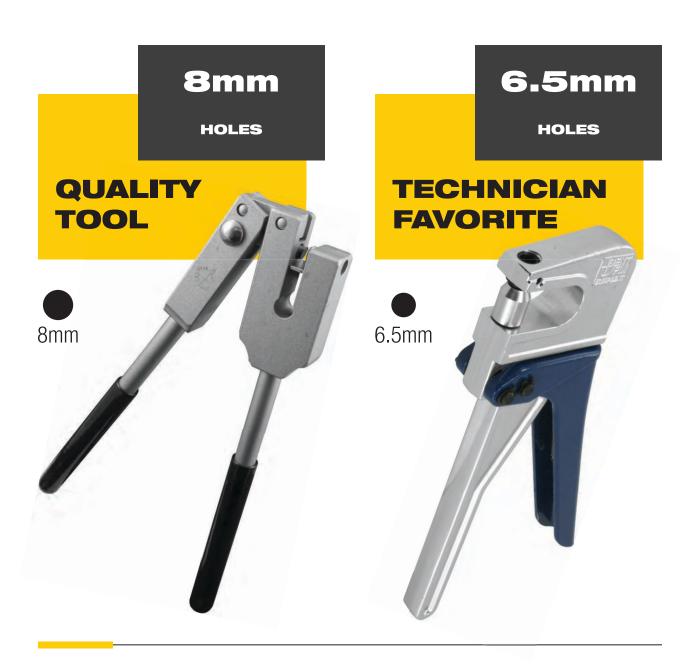
WWW.DENTFIX.COM STEEL 35

### 8.0MM PUNCH DF-516

- Punches 8.0mm holes
- Up to 18 gauge steel
- Depth adjustable
- Comfort grips

### 6.5MM PUNCH DF-8

- Punches 6.5mm holes
- Up to 18 gauge steel
- Deep throat
- Allows for more room from edge



36 PLASTIC WWW.DENTFIX.COM

# EZ NITROGEN PLASTIC WELDER DF-EZN1

- Plastic Inert Gas (P.I.G.) Welder
- Flow Adjust Switch Technology (F.A.S.T.)
- Automatic flow with no need to adjust
- Dent Fix takes plastic welding to 11
- Works with most plastics
- Nitrogen tank sold separately

# MADE IN THE USA AUTOMATIC FLOW SIMPLE OPERATION

110

**VOLT** 

INCLUDED WITH DF-EZN1 EZ Nitrogen Plastic Welder	Nitrogen Welder	Storage Cart	Tank Regulator DF-EZN1TR	OPTIONAL	Heat Gun	Hot Stapler
Aluminum Tape	Heat Gun Holster	Hand Seamer	Plastic Rod Assortment	EQUIPMENT	The second	
DF-EZN1-AT150	DF-900HGH	DF-EZN1HS			DF-900HG	
	TYPF		SIZE	PAI	RT# O	UANTITY

CONSUM-ABLE PLASTIC RODS

PART #

+
QUANTITY

Plastic Rod Re-Order Part Number

TYPE	SIZE	PART #	QUANTITY
ABS Plastic Rod	3mm	DF-EZN1-ABBK03/	100 or 50
ABS Plastic Rod	9mm	DF-EZN1-ABBK09/	100 or 50
Nylon Plastic Rod	3mm	DF-EZN1-NYNT03/	100 or 50
Nylon Plastic Rod	9mm	DF-EZN1-NYNT09/	100 or 50
Polycarbonate Plastic Rod	3mm	DF-EZN1-PCNT03/	100 or 50
Polycarbonate Plastic Rod	9mm	DF-EZN1-PCNT09/	100 or 50
Polyethylene Plastic Rod	3mm	DF-EZN1-PEBK03/	100 or 50
Polyethylene Plastic Rod	9mm	DF-EZN1-PEBK09/	100 or 50
Polypropylene Plastic Rod	3mm	DF-EZN1-PPBK03/	100 or 50
Polypropylene Plastic Rod	6mm	DF-EZN1-PPBK06/	100 or 50
Polypropylene Plastic Rod	9mm	DF-EZN1-PPBK09/	100 or 50
Polypropylene Plastic Rod	10mm	DF-EZN1-PPBK10/	100 or 50
Polypropylene Plastic Rod	13mm	DF-EZN1-PPBK13/	100 or 50
Polypropylene Plastic Rod	90mm	DF-EZN1-PPBK90/	100 or 50
Polyurethane Plastic Rod	3mm	DF-EZN1-PUNT03/	100 or 50







### Kit Includes:

EZ Nitrogen Welder Unit Rolling Storage Stand Power Strip on the cart Hand Seeming Tool - 3.5" Dual Gauge Regulator Aluminum Tape Roll - 150ft Plastic Sample Pack

- Polyurethane
- Polypropylene
  - Polyethylene
- Polycarbonate
  - ABS

    - Nylon

### **Optional Upgrades:**

Hot Stapler Kit (DF-800BR) Heat Gun (DF-900HG)

\*EZ NITROGEN WELDER PICTURED WITH NITROGEN TANK BUT IT IS NOT **INCLUDED WITH PURCHASE. TANK SOLD SEPARATELY** 

20 PSI

20 PSI

54 lbs.

B8 PLASTIC WWW.DENTFIX.COM

### **HOT STAPLES ALL**



### **High Vibration:**

Some straight cracks might be located in high vibration areas like plastic supports under the hood. To counteract the vibrations, these clips are used because the footprint is larger than the Z-Clip. The extra width covers more surface area and adds rigidity. The larger footprint allows it to be used horizontally and vertically.



DF-800NC/50 (50 pc) DF-800NC/250 (250 pc)



#### Stitch Holes:

This staple can be used in specific areas like round curves and also in areas where there is little obstruction. When used on open area cracks for best results, after submerging the staple into the plastic give a clockwise twist while the staple still hot. This twist helps to further reinforce the repair area. Width covers more surface area and adds rigidity. The larger footprint allows it to be used horizontally and vertically.



DF-800SC/50 (50 pc) DF-800SC/250 (250 pc)



#### **Rounded Corner:**

Another curved application, this staple can help with a rounded corner. This is an alternative to the M-Clip which would leave exposed staple. Also effective in curved areas around screw and plastic rivet holes.



#### **Inside Corner:**

A great selection for the inside corners of right angles. The major advantage is to reinforce 90 degree angles from the inside which also can conceal the repair to the back side. Use smaller intervals to create a stronger spine or connect a support tab.



DF-800UC/50 (50 pc) DF-800UC/250 (250 pc)



DF-800VC/50 (50 pc) DF-800VC/250 (250 pc)



Kit Includes:
Hot Stapler
Finishing Iron (DF-800SI)
Filler Rods (DF-800SC/50)
x50 S-Clip StapleClips (DF-800VC/50)
x50 V-Clip StapleClips (DF-800WC/50)
x50 M-Clip StapleClips (DF-800MC/50)
x50 Z-Clip StapleClips (DF-800VC/50)
x50 W-Clip StapleClips (DF-800WC/50)
x50 N-Clip StapleClips (DF-800WC/50)

Blow Molded Case

# MADE IN AMERICA THE ORIGINAL HOT STAPLER \_\_\_\_

110 volt

- Installs staples to repair tears in plastic
- Saves thermoplastic parts from the trash
- Crafted to be compact & lightweight
- No base station

VOLTAGEWEIGHT110v5 lbsMADE INWARRANTYUSA5 YEARS

WWW.DENTFIX.COM **PLASTIC** 



### **Grip Corner:**

The specialized W shape really comes handy when a V-Clip will not work. This shape adds extra support to thicker gauge plastic. The ridges provide more stable surface areas for the staple to reinforce the corner. Typical applications are for thick cornered areas and structurally load-bearing joints.



DF-800WC/50 (50 pc) DF-800WC/250 (250 pc)



#### **Stitch Tears:**

The most common variety used. Designed for repairing general tears the Z shape forms a natural stitch. Usually used for small and delicate tears. This staple is placed at intervals. Tighter staple intervals can be used on curved cracks and high load bearing areas.



DF-800ZC/50 (50 pc) DF-800ZC/250 (250 pc)



#### **Outside Corner:**

The inside corner of a broken part might not be accessible from the backside. Using the M-Clip on the front of the repair not only allows for the repair to be performed, but also saves time by not having to remove the part from the vehicle. These areas are usually right angles, bends and joints.



DF-800MC/50 (50 pc) DF-800MC/250 (250 pc)



Breakaway: There is an important feature to understand; what makes a Dent Fix Breakaway® Staple® breakaway. This small design element will cut cycle time and save technicians extra steps. technicians extra steps.
The leads are notched, like someone took an ax to a tree, allowing them to be snapped off with a hand, instead of having to go back over with snips. The time savings does not stop there: if sunken deep enough the leads will break below the surface of the plastic eliminating the need to go back over with a grinder later. Over time these simple improvements make the difference in profitability and not going over the allocated time.

## **HOT STAPLER BASIC DF-400BR**



### Kit Includes:

Hot Stapler x50 S-Clip StapleClips (DF-800SC/50) x50 V-Clip StapleClips (DF-800VC/50) x50 M-Clip StapleClips (DF-800MC/50) x50 Z-Clip StapleClips (DF-800ZC/50) Clear Storage Case



## **VALUABLE** TOOL

110

VOLT

- Installs staples to repair tears in plastic
- Saves thermoplastic parts from the trash
- Three heat settings: Light Duty, Regular, HD
- Handle + base station

VOLTAGE	WEIGHT
110v	6 lbs
MADE IN	WARRANTY
TAIWAN	1 YEAR

# **SWIVEL RIVETER DF-CT888**

- Install difficult plastic rivets
- 360° rotational head
- Short travel squeeze handle
- Includes 5.0 & 6.3mm rivets
- Blow molded case



WWW.DENTFIX.COM PLASTIC 41

# **SLIMLINE RIVETER**DF-CT887

- Install difficult plastic rivets
- 2" gap clearance
- Works around wheel arches
- Includes 5.0 & 6.3mm rivets
- Blow molded case

# PERFECT FIT SAVES TIME COMPACT

2"

**GAP CLEARANCE** 



42 PLASTIC WWW.DENTFIX.COM

# 3PC CLIP SET DF-618XL

- Removes fasteners & clips
- Great for upholstery removal
- Disassemble door panels
- 245x11, 370x11, 250x5mm
- Foam storage for tool drawer

## 5PC CLIP KIT DF-618LK

- For plastic fasteners & clips
- Used for upholstery removal
- Door panel removal
- Angled & curved for leveraging
- Foam storage for tool drawer



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## CLIP LIFTER DF-618CL

- Safely remove clips & fasteners
- Reduce fragile parts breakage
- For upholstery & door panels
- Hi-vis yellow handle
- Sturdy construction
- Length: 6.9"

## CLIP PLIERS DF-624CP

- Remove plastic clips safely
- Quality steel construction
- Notched handle for extra grip
- Remove clips without damage
- Curved tip with grip teeth
- Length: 7.25"



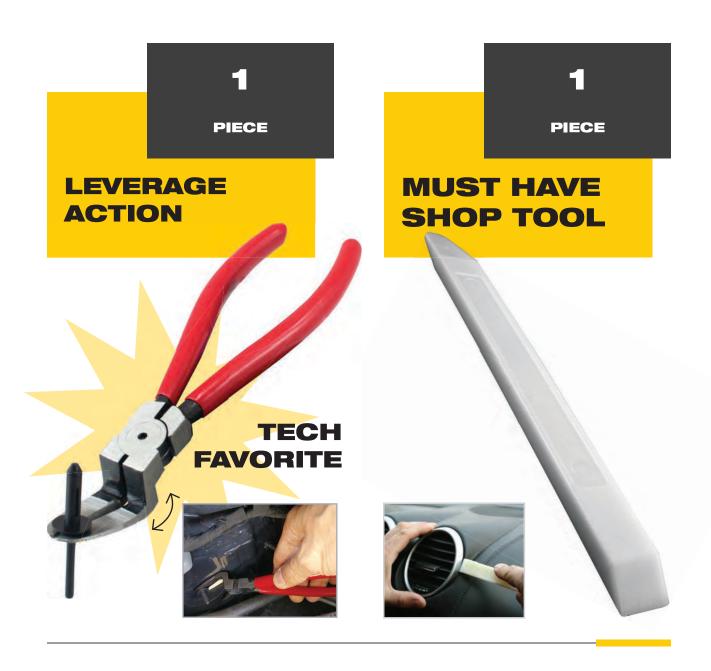
PLASTIC WWW.DENTFIX.COM

## MULTI-CLIP PLIERS DF-625

- Remove, pry, or cut tabs & clips
- Disassemble clips
- Also cuts tubing or zip ties
- Durable high-carbon steel frame

# WEDGE LIFTER DF-WK20

- Perfect for glass removal
- Also use as a door wedge
- Molding removal made simple
- Great for around air vents



PLASTIC WWW.DENTFIX.COM

## **WEDGE SET DF-609**

- Utility wedge set
- Use for door wedges
- Great for molding removal
- Solid plastic construction
- 30 & 60mm wedges
- One clip tool



- Wedge plus clip removal tool
- Hard to lose, hi-vis yellow
- Constructed of strong plastic
- For dash & door panel removal
- Pivot point for prying
- Length: 8.5"









PLASTIC WWW.DENTFIX.COM

## DELUXE TRIM SCRAPER SET DF-623TPS

- Safely remove interior & exterior trim pieces
- Velcro enclosed canvas pouch
- Remove air vents, door trim, dashboard pieces, plastic trunk guards, or any delicate pieces
- Ninja Warrior Set



# TRIM PANEL SET DF-621TPS



# PROFESSIONAL TOOL SET

12

PIECES

- Trim panel popper set
- Two pry bars
- Nine double-sided clip removers
- Double-sided dead blow hammer
- Blow molded hard case
- Sold as a set, not individually
- Detail Set

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# 27 PIECES

TRIM PANEL
SCRAPER SET
DF-620TPS

SAVE DELICATE PARTS

12

PIECES



- Easily save delicate trim pieces
- Includes metal pry bar
- Store in canvas pouch with Velcro enclosures
- Tradesman Set



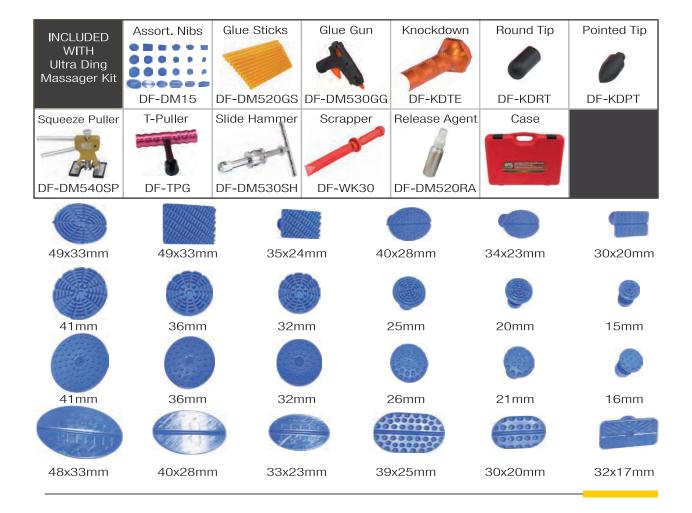
## ULTRA DING MASSAGER DF-DM555UDX

- Dings, dents, & hail damage
- Easy to use & learn
- Special nibs for crease repair
- Improved kit with everything
- Works on steel or aluminum
- Use on OEM paint only

# MINOR DING/DENTS CREASE REPAIR QUICK & EASY

24

**DIFFERENT NIBS** 



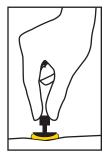
WWW.DENTFIX.COM PDR 49



### **HOW DOES THE ULTRA DING MASSAGER PDR KIT WORK?**

The repair area and the bottom surface area of the nib must be free of wax, grease, and dirt before any nibs are applied. It is also important for the damaged surface to be shaded and cool.

Hot glue is always applied to the entire bottom surface area of the plastic nib before being placed gently on the dent surface. For small dents place the nib with hot glue already applied, to the lowest point of the dent and float



the nib approximately 1/8" between the panel and nib surface until the glue dries and hardens (10 to 20 seconds). Allow 2 to 3 minutes for the glue to fully set and then attach the Slide Hammer, Squeeze Puller, or T-Puller to the nib. Pull softly at first, gradually increasing tension

& force. The Slide Hammer should be used for tapping action and not used with full force. A quick or forceful pull can release the bond prematurely or break the nib. For the larger dents, use the gluing process from above but start gently pulling from outside, where the dent is shallowest, and work your way in towards the deepest valley.

Multiple nibs will be gulled to the panel while going around pulling outside in different locations.

Crease pulling is now possible thanks to the newly included three piece Crease Nib Set. Using the same gluing technique as before place the Crease Nib "spine" in line with the with the valley of the crease. The two "wings" of the nib surface should be on either side of the valley. The wings apply lateral and uniform pulling to gently coax the crease back into place.

50 PDR WWW.DENTFIX.COM

# 33-PIECE PDR ROD KIT DF-PDRKIT33

- Professionally crafted PDR rods and hangers in stainless steel
- Essential gathering of expertly designed pieces
- Access the back of the panel with ease
- Includes canvas storage case

# 33 PIECES

# THE RIGHT TOOL FOR THE JOB MEANS BETTER RESULTS

### DING BOARD DF-DM510DBY



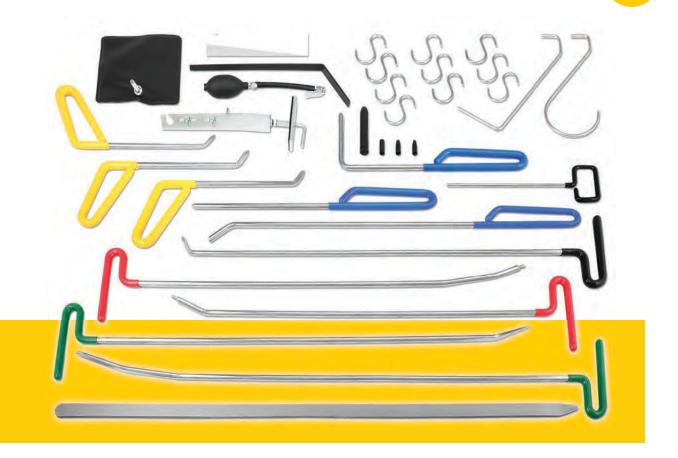
### REFLECTIVE DENT DISCOVERY

1 PIECE

- The board's reflection used to find small dents
- Yellow back ding board for high visibility
- Contrasting reflection suited for indoors
- Option: White for Outdoors # DF-DM510DBW



WWW.DENTFIX.COM PDR 51





# DIGITAL TRAM GAUGE DF-3DX

- Easy read digital display
- Measures in metric or American standard
- Measures from 1'4" to 11'11"



# AUTOMATIC SELF CALIBRATING EXTREMELY ACCURATE LONG MEASURING RANGE





**Digital Display:** Easy to read LCD screen vividly shows measurement readouts. Measures in both metric and American standard

### Kit Includes:

x3 - 350mm Pointers (DF-301)

x2 - 110mm Pointers (DF-302)

x2 - Cone Pointers

x2 - Bullet Pointers

x2 - Pointer Holders

x4 - AA Batteries

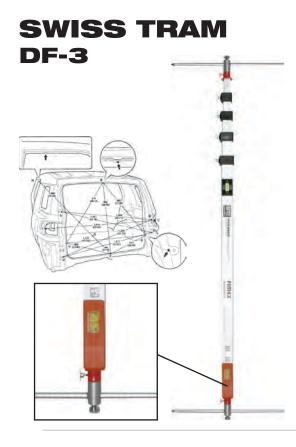
x1 - Blow Molded Case

### **Optional Equipment:**

700mm Pointers (DF-309)







## HIGHLY ACCURATE

10'6"

MAX

- Accurate to +/- 1.0mm
- Easy to read tape measure
- Measures 3' to 10'6"

### Kit Includes:

- x2 350mm Pointers
- x2 Cone Pointers (DF-1180)
- x2 Right Angle Pointers (DF-121)
- x2 Bullet Pointers (DF-120)
- x1 Nylon Storage Bag

### **Optional Equipment:**

Tram Shortener (DF-311)



# MINI & HIGHLY ACCURATE

3'3"

MAX

- Accurate to +/- 1.0mm
- Easy to read tape measure
- Measures 16.5" to 3'3"

### Kit Includes:

- x2 350mm Pointers
- x2 Cone Pointers (DF-1180)
- x2 Right Angle Pointers (DF-121)
- x2 Bullet Pointers (DF-120)
- x1 Nylon Storage Bag

Our Swiss Trams are the most durable and accurate

# **BODYLINE TOOL DF-BL10A**



# DRAW FENDER CURVE LINE

4

**GOLF PENCIL** 

- Re-create fender curve lines perfectly
- Trace block is adjustable up and down
- Made in the USA



## PERFECT GAP GAUGE DF-PG213



# SET EXACT FENDER GAP

2

PIECES

- Eliminates the guess work
- Sets the gap width to factory specifications
- 1 to 10mm (1mm per spacer, 10 total)







# SUSPENDS THE OBJECT

PIECE

- Strong & fast method for securing parts
- For a controlled spray painting or coating
- Magnetic base and powerful wedge grip









# FLEXIBLE NECK

PIECE

- Strong & fast method for securing parts
- Move the part with the flexible neck
- Can be attached to magnetic spray booths

WWW.DENTFIX.COM SHOP TOOLS 57



## WORKS GREAT FOR PDR

15"

MAX LENGTH

- Secures a door, hatch, or hood in one position
- Three adjustment settings (11", 13", 15")
- Good for left or right use





BRIGHT & POWERFUL

935

LUX

- Super bright COB (Chip on board) LED
- Hang the lamp by the magnetic swivel base
- Adjustable dimmer switch

MAX HOURS	CHARGE TIME
12	4 HOURS
MAX LUX	BATTERY
935	LI-ION

**DETAIL** WWW.DENTFIX.COM

## TORNADOR BLACK DF-Z020





## TURBO CHARGED

3,600

- Double the power of the Tornador Classic
- Low wear and maintenance
- Feature & Benefit

AIR PRESSURE	AIR INLET
5.2-6.4 CFM @ 90PSI	1/4"
FREE SPEED RPM	WEIGHT (DRY)
3,600	1.34 lbs

## TORNADOR CLASSIC DF-Z010



# ADD LIQUID CLEANERS

90 <sub>PSI</sub>

- Pulse cleaning gun with reservoir
- Excellent for soft surface cleaning
- Efficiently delivers additives in a fine mist

AIR PRESSURE	AIR INLET
5.2-6.4 CFM @ 90PSI	1/4"
JAR CAPACITY	WEIGHT (DRY)
32 oz	1.34 lbs

WWW.DENTFIX.COM DETAIL 59

# TORNADOR BLOW OUT TOOL DF-Z014



## PULSE CLEANING

70

PSI

- Pulsation of air will beat the dirt out
- Durable alloy construction
- Patented tube provides tornador action

AIR PRESSURE	AIR INLET
5.2-6.4 CFM @ 70PSI	1/4"
FREE SPEED	WEIGHT
3,600	15 oz

### FOAM GUN DF-ZO11



## INSTANT FOAM

32

OZ JAR

- Generates suds for gentle application
- Complete coverage with limited waste
- High density foamer tips add control

AIR PRESSURE	AIR INLET
5.2-6.4 CFM @ 90PSI	1/4"
LIQUID CONSUMPTION	WEIGHT
@70 PSI 1 min: 32 oz	2 lbs (0.90 kgs)

## CONSUMABLES

### LIST OF CONSUMABLE ITEMS FROM DENT FIX

### **ALUMINUM**

ALUSPOT (900DXE or 900DX)

Alu-Magnesium Stud Pins M4x25mm

DF-900PM (500 pc)

DF-900PM/250 (250 pc)

Alu-Magnesium Stud Pins M4x12mm

DF-900PM/SHORT (400 pc)

Alu-Silicon Stud Pins M4x25mm

DF-900PS (500 pc)

DF-900PS/250 (250 pc)

Alu-Silicon Stud Pins M4x12mm

DF-900PS/SHORT (400 pc)

Pull Finger

DF-900PF (1 pc)

Threaded Steel Eyelets

DF-900TE (5 pc)

SPR RIVETER (DF-SPR67)

Zinc Coated SPR Rivet **3.3x3.5mm** 

DF-SPR33 (200 pc)

Zinc Coated SPR Rivet **3.3x4.0mm** 

DF-SPR34 (200 pc)

Zinc Coated SPR Rivet **5.3x4.0mm** 

DF-SPR54 (100 pc)

Zinc Coated SPR Rivet **5.3x5.0mm** 

DF-SPR55 (100 pc)

Zinc Coated SPR Rivet **5.3x6.0mm** DF-SPR56 (100 pc)

Zinc Coated SPR Rivet **5.3x7.0mm** 

DF-SPR58 (100 pc)

Zinc Coated SPR Rivet **5.3x9.0mm** 

DF-SPR57 (100 pc)

Zinc Coated SPR Rivet **5.3x8.0mm** 

DF-SPR59 (100 pc)







### **STEEL**

MAXI (DF-505/220v & 110V) HAMMERHEAD (DF-595II)

Wiggle Wire Thin 0.062" DF-508 (1/2 lb | approx. 30 pc)

Wiggle Wire Thin **0.062**" DF-507 (1 lb | approx. 60 pc)

Wiggle Wire Thick **0.093**" DF-508TK (1/2 lb | approx. 15 pc)

Wiggle Wire Thick 0.093" DF-507TK (1 lb | approx. 30 pc)

TotalStik Stud Pins 2.0mm

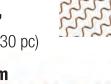
DF-20 (1000 pc) DF-20/500 (500 pc)

DF-20/250 (250 pc)











TotalStik Stud Pins **2.6mm** 

DF-26 (1000 pc)

DF-26/500 (500 pc)

DF-26/250 (250 pc)

Full Value Stud Pins **2.2mm** DF-22FV (500 pc)

Full Value Stud Pins 2.6mm DF-26FV (500 pc)

MAXI Short Welding Rod **5.5**" DF-503 (3 pc)

MAXI Long Welding Rod 10.0" DF-503L (3 pc)

HAMMERHEAD Short Welding Rod 7.0" === DF-503iiR (3 pc) Threaded

HAMMERHEAD Long Welding Rod 11.0"

DF-503iiLR (3 pc) Threaded

Magnet Ground DF-GM (1 pc)

**Trigger Switch** DF-503T (1 pc)

Weld Keys (100 PC)





SPOT ANNIHILATOR SPOT WELD DRILL (DF-15DX)

Boron Killer Bit 8x45mm DF-1690 (Layered Tungsten-Carbide)

Hard Edge Bit **8x45mm** DF-1680TC (Titanium Carbon Nitride)

Hard Edge Bit **10x45mm** DF-1610TC (Titanium Carbon Nitride)









SPOT WELD BITS FOR 3/8" DRILL **CHUCK** 

Variety Drill Bits 6x80mm (x1), 8x80mm (x3), 10x80mm (x1) DF-1786VP

(Titanium Carbonitride)

Heat Resistant Bit 8x45mm DF-1680T (Titanium Nitride)

Heat Resistant Bit **10x45mm** DF-1610T (Titanium Nitride)



HSS Bit 8x45mm DF-1480 (High Speed Cobalt)

HSS Bit 10x45mm DF-1610 (High Speed Cobalt)





HSS Bit 8x80mm

DF-1667 (Layered Tungsten-Carbide)

DF-1780 (High Speed Cobalt)





### **PLASTIC**

HOT STAPLER (DF-800BR & 400BR)

Breakaway StapleClip **M-Clip** DF-800MC/50 (50 pc) DF-800MC/250 (250 pc)

Breakaway StapleClip **S-Clip** DF-800SC/50 (50 pc) DF-800SC/250 (250 pc)

5

Breakaway StapleClip **Z-Clip** DF-800ZC/50 (50 pc) DF-800ZC/250 (250 pc)

ξ

Breakaway StapleClip **U-Clip** DF-800UC/50 (50 pc) DF-800UC/250 (250 pc)



Breakaway StapleClip **W-Clip** DF-800WC/50 (50 pc) DF-800WC/250 (250 pc)



Breakaway StapleClip **V-Clip** DF-800VC/50 (50 pc) DF-800VC/250 (250 pc)



Breakaway StapleClip **N-Clip** DF-800NC/50 (50 pc) DF-800NC/250 (250 pc)



Plastic Fill Rods **Black** DF-800FR (10 pc)



PLASTIC RIVETER (DF-CT888 & CT887)

Plastic Rivets **5.7mm** DF-CT887RS (50 pc)



Plastic Rivets **6.3mm** DF-CT887RL (50 pc)

### **PAINT-LESS DENT REPAIR (PDR)**

ULTRA DING MASSAGER (DF-DM555UDX)

Glue **Amber, Original Strength** DF-DM520GS (10 pc)



Glue **Red, High Strength** 

DF-HS10 (10 pc)

Glue Yellow, Professional Strength

DF-PG10 (10 pc)





PDR Nibs **Larger Circle, Bumps** DF-DMCB (10 pc)



PDR Nibs **Smaller Circle, Divets** DF-DMCD (10 pc)



PDR Nibs **Larger Circle, Bars** DF-DMRL (10 pc)



PDR Nibs **Smaller Circle, Bars** 



DF-DMRS (10 pc)

PDR Nibs **Crease** DF-DMCP (10 pc)



Release Agent **Bottle** DF-DM521RA (1 pc)

Plastic Scrapper DF-WK30 (1 pc)



Knock-down **Tool ONLY**DF-KDTE (1 pc)

Knock-down **Tip ROUNDED** DF-KDRT (1 pc)



Knock-down **Tip POINTED** DF-KDPT (1 pc)



### **MEASUREMENT**

DIGITAL MEASURING TRAM (DF-3DX)

Pointers **350mm** 

DF-301 (1 pc)

Pointers 110mm

DF-302 (1 pc)

Pointers Cone

DF-305 (1 pc)

Pointers **Bullet** 

DF-304 (1 pc)

Pointers Holders

DF-303 (1 pc)



### **DETAIL**

TORNADOR (DF-Z014 & Z014B)

Replacement Weighted **Tube** DF-SPZ010003 (1 pc)

Plastic Cone with Brush

DF-SPZ010002B (1 pc)

Plastic Cone **without Brush** DF-SPZ010002S (1 pc)



TORNADOR WITH RESERVOIR (DF-Z010 & Z010B)

Replacement Weighted **Tube** DF-SPZ010003 (1 pc)

Plastic Cone with Brush DF-SPZ010002B (1 pc)

Plastic Cone **without Brush** DF-SPZ010002S (1 pc)

Plastic Jar **32oz** 

DF-SPZ010021 (1 pc)



Tram Shortener **DF-3 ONLY** 

DF-311 (1 pc)

Pointers **350mm** 

DF-118 (1 pc)

Pointers **280mm** 

DF-118A (1 pc)

Pointers **Cone** 

DF-1180 (1 pc)

Pointers **Bullet** DF-120 (1 pc)

Pointers Right Angle

DF-121 (1 pc)



3 & 5 METER TRAMS (DF-3TC3A & 3TC5A)

Pointers **350mm** 

DF-301 (1 pc)