DENT FIX EQUIPMENT

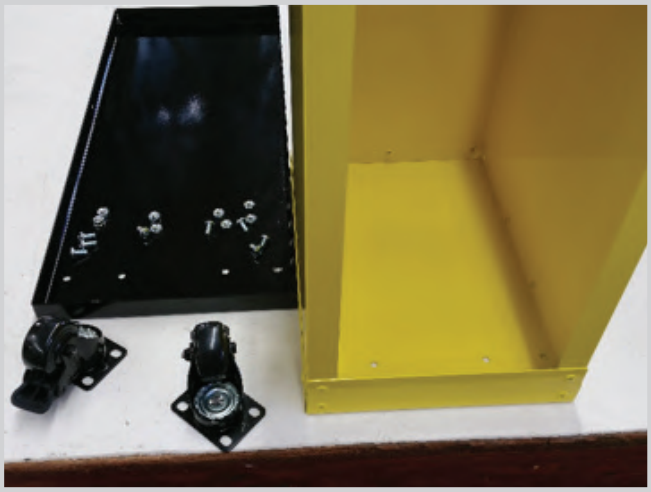
EZ NITRO PLASTIC WELDER USER GUIDE

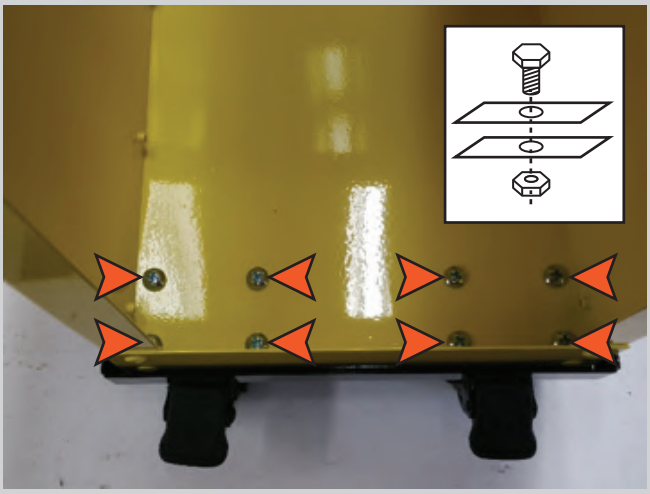
The Dent Fix EZ Nitro plastic welder kit (DF-EZN1) is a plastic inert gas welder with Flow Adjust Switching Technology, eliminating the need to adjust and set the proper air and gas flow.

The EZ Nitro kit includes a nitrogen welder, storage cart, tank regulator, aluminum tape, heat gun holster, hand seamer and an assortment of plastic rods. A nitrogen tank is sold separately.

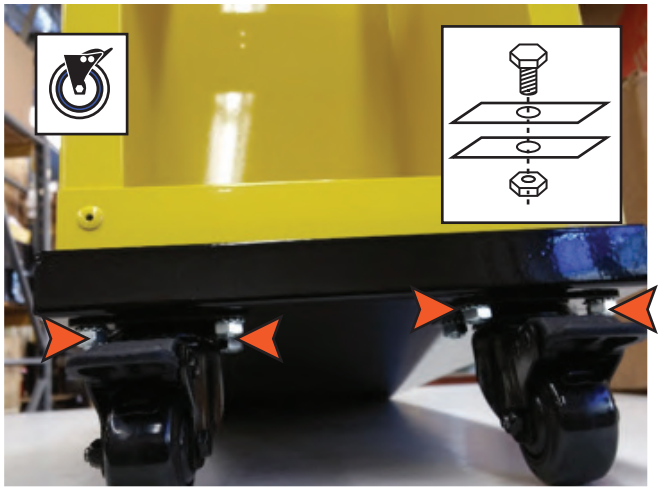
Contents

Cart Assembly

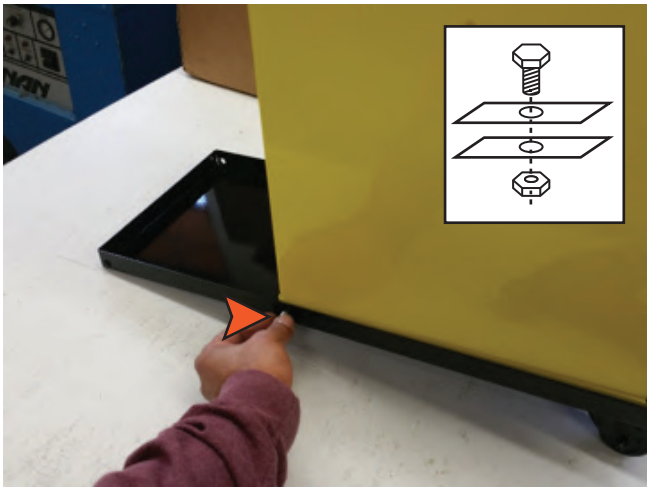




1 Set the stand onto the black base, aligning the eight holes on the bottom front of the stand to the corresponding eight holes on the front of the base.

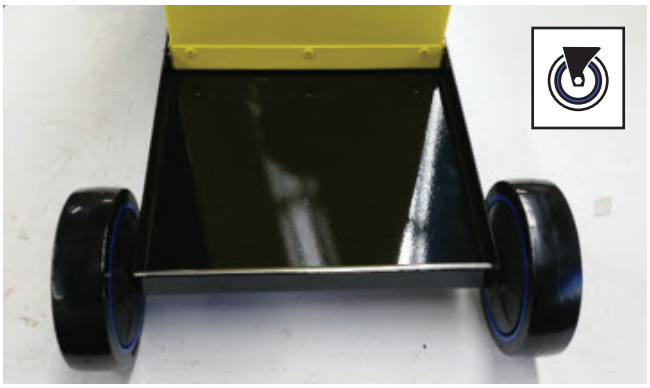


2 Install the two front swivel wheels onto the base with eight screws and locking nuts passing through the stand and the base and the wheels.



3 Attach the rear of the stand to the base with two screws and lock nuts

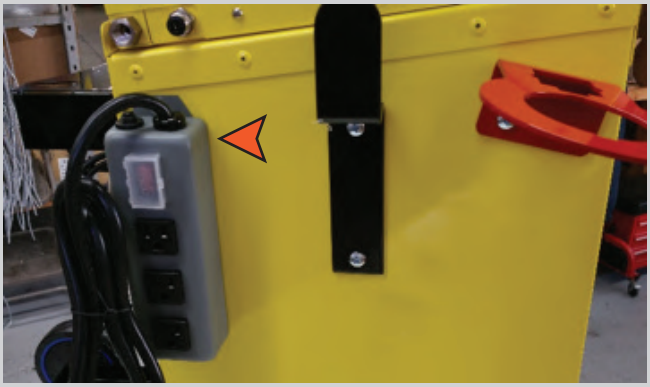
Cart Assembly (Cont)



4 **Run the axle through the rear holes on the sides of the base install, wheels, and axle caps**

5 **Install the side z brackets using four screws and lock nuts.**

6 **Install heat gun / thermal stapler holster to the left front of the stand two screws and lock nuts.**



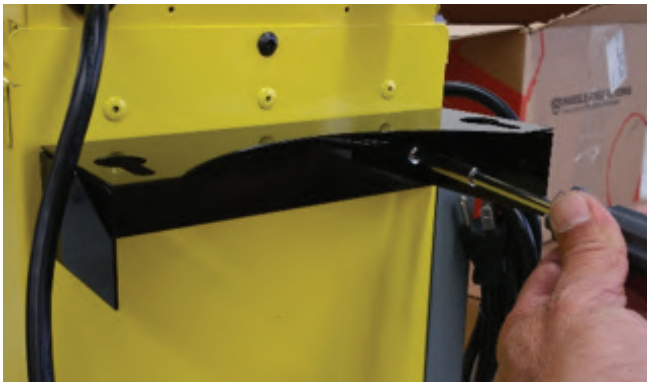
7 **Install power strip to the left rear of the stand using two screws and lock nuts.**

8 **Attach the welder to the stand, with four screws in the front passing through the stand into the welder, and one screw at the rear of the welder passing through the stand.**

Cart Assembly (Cont)

9 **Install the handle by sliding it into the two holes on the top of the welder. Align the holes in the handle to the top holes in the back of the welder with two sheet metal screws.**

10 **Install the short tank chain bracket with two sheet metal screws passing through the bracket into the lower handle holes on the back of the welder.**



11 **Install the long tank chain bracket to the top of the stand with 2 screws and locking nuts.**

Welder Controls

A **Power Switch –** Turns the welder on/off

B **N2 Torch Temperature Control –** Turns the nitrogen torch on/off & sets the temperature

C **Airless Temperature Control –** Turns the airless torch on/off & sets the temperature

D **Flow Adjust Switch –** Changes the flow of the nitrogen torch from air (cooling) to gas (welding)

E **Circuit Breaker –** Protects the welder from over power, acts like a fuse. Resets with a push

F **Airless Receptacle –** For plugging in the airless torch only

G **Air Regulator –** Sets and holds the input air pressure at the proper 20psi

H **Tank Regulator –** Sets & holds the input gas at the proper 20psi

I **Nitrogen Torch –** Used for nitrogen welding

J **Airless torch –** Used for airless welding

Getting Started

Nitrogen Plastic Welding (NPW)

NPW is the process of using a heated inert gas (nitrogen) to melt and fuse plastic together for repair. The nitrogen is used to eliminate the oxygen from the weld site to prevent burning. This gives a clean melt and fusion leaving the welded area the same as before the repair. If the plastic is burned it can easily becomes brittle and weak.

Airless Welding (AW)

AW is the process of using a hot iron to melt and fuse plastic. The auto collision industry has been using AW since the late 70's. Although very effective, AW has limited effectiveness compared to NPW and it does burn the plastic to some degree. AW is the only welding method that works on thermoset plastics such as polyurethane. The DF-EZN1's AW is mostly used for smoothing and shaping welds after using the nitrogen welder.

DF-EZN1 EZ NITRO General Description

The DF-EZN1 EZ NITRO PLASTIC WELDER is unique in its use of proprietary Flow Adjust Switch Technology (FAST). The FAST system makes the DF-EZN1 the easiest nitrogen welder to learn and use. It simplifies nitrogen welding and eliminates flow adjustments by the user. This significantly reduces the time to set up the welder and gets the work done FAST.

Equipped with two welders, the DF-EZN1 EZ NITRO incorporates both a nitrogen welding torch and an airless welding torch. The nitrogen torch is air cooled. It is essential to establish and maintain air flow before turning the welder on, and air flow must be maintained until the nitrogen torch cools down. (Usually 10 minutes to cool down after powering down)

The unit comes with plastic rod in various types and sizes to enable the user to weld different types of plastic and different types of damages. Also included is a roll of aluminum tape to hold parts together when welding. The hand seaming tool help shapes, flatten, and insure that repaired flanges and tabs are the correct thickness.

The cart is equipped with a tank regulator, tank brackets, tank chain, a heat gun holster, and a power strip for powering other tools such as the optional digital set heat gun (DF-900HG) and thermal hot stapler (DF-800BR).

Getting Started (cont)

Nitrogen Plastic Welding vs. Adhesives

Plastic welding fuses the damaged area together using a plastic rod made of the same material as the broken part. This leaves the repaired part as close to per-accident condition as possible. Adhesives are substantially different then the material that the part is made of, and large amounts are used compared to welding. This leaves the part very different then it was pre-collision.

After plastic welding the weld area can be cooled in seconds using compressed air. Adhesives can sometimes take hours to fully dry wasting time.

Plastic welding does not require the use of backing material such as steel or nylon mesh. Adhesives usually require the use of backing material, adding even more foreign material into the repair area

Plastic welding allows the repair of intricate parts or areas of parts such as tabs, flanges, grille bars. Most of these intricate repairs cannot be done with adhesives.

Plastic welding rod is very inexpensive compared to adhesives that require mixing tips, backing material, adhesion promoter, and the very expensive adhesive. For most plastic welding repairs, the cost of the plastic rod is less expensive than the price of a single mixing tip.

DF-EZN1 EZ NITRO vs. Other plastic welders

The DF-EZN1 EZ NITRO is the 1st nitrogen welder that does not require any flow adjustment to the air or gas systems. All other nitrogen welders require the end user to set the proper flow of both the air and gas. Improper adjustment of the air can cause the welder to overheat and burn out, improper adjustment of the nitrogen can cause the welder to overheat, or not weld properly. The DF-EZN1 EZ NITRO uses a proprietary Flow Adjust Switch Technology (FAST) eliminating the need to adjust the gas and air settings because the flow of gas and air is preset from the factory. The FAST system automatically adjusts the air and gas to the correct flow when switched from the air (cool down side) to the gas (weld side). This FAST system makes the DF-EZN1 EZ NITRO the 1st plug and play nitrogen plastic welder on the market. The simplicity of the FAST system also makes the welder more reliable, that's why Dent Fix has the best warranty of any nitrogen plastic welder on the market. Lastly the DF-EZN1 EZ NITRO is from Dent Fix. Dent fix has been known for innovation and quality for 40 years, and is one of the most trusted names in the collision equipment business.

Welder Operation

Welder Operation

1. Plug in an air hose to the inlet nipple
2. Turn on the nitrogen tank
3. Turn on the main power switch
4. Turn on the nitrogen torch and set it to the appropriate temperature for the type of plastic being welded (SEE WELD TEMPRATURE CHART BELOW)
5. Turn on the airless torch and set to the appropriate temperature for the type of plastic being welded (SEE WELD TEMPRATURE CHART BELOW)
6. Wait approximately 10 minutes for warm up
7. Remove the nitrogen torch from the holster and switch the flow switch to the weld position.
8. BEGIN WELDING.
9. ALWAYS SWITCH THE FLOW SWITCH BACK TO COOL DOWN WHEN THE TORCH IS PUT INTO THE HOLSTER

⚠ CAUTION

FAILURE TO PROPERLY COOL DOWN THE WELDER CAN CAUSE DAMAGE.

Welder Shut Down

1. Shut off both the nitrogen torch and the airless torch.
2. Shut off the main power switch. Shut off the nitrogen tank valve.
3. Leave the airline plugged in for at least 10 minutes to allow the welder to cool down.

Weld Temperature Chart	NITROGEN	AIRLESS
Polyurethane	Not Used	5
Polyethylene	5	5
ABS	5	5
Polypropylene	6	6
Polycarbonate	7	7

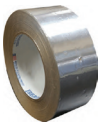
Consumables/Upgrades

Plastic Rods

3mm ABS	TRIANGLE	25pc	DF-ABBK03T
3mm ABS	ROUND	25pc	DF-ABBK03
9mm ABS	FLAT	25pc	DF-ABBK09
15mm ABS	FLAT	25pc	DF-ABBK15
3mm Polycarbonate	TRIANGLE	25pc	DF-PCNT03T
3mm Polycarbonate	ROUND	25pc	DF-PCNT03
6mm Polycarbonate	FLAT	25pc	DF-PCNT06
9mm Polycarbonate	FLAT	25pc	DF-PCNT09
15mm Polycarbonate	FLAT	25pc	DF-PCNT15
3mm Polyethylene	ROUND	25pc	DF-PEBK03
9mm Polyethylene	FLAT	25pc	DF-PEBK09
15mm Polyethylene	FLAT	25pc	DF-PEBK15
3mm Polypropylene	TRIANGLE	25pc	DF-PPBK03T
3mm Polypropylene	ROUND	25pc	DF-PPBK03
6mm Polypropylene	FLAT	25pc	DF-PPBK06
9mm Polypropylene	FLAT	25pc	DF-PPBK09
15mm Polypropylene	FLAT	25pc	DF-PPBK15
3mm Polyurethane	ROUND	25pc	DF-PUNT03

Aluminum Tape

150ft Aluminum Tape Roll -



DF-EZN1-AT150

Upgrades

Premium Hot Stapler Kit
DF-800BR

Basic Hot Stapler Kit
DF-400BR

Digital Set Heat Gun
DF-900HG

Plastic Types

Plastic Types

Most plastic parts will have the type of plastic that the part is made of stamped on it. The plastic rod packages supplied with the DF-EZN1 will weld most types of plastics found on an automobile. The following is a list of the plastic welding rod supplied and the corresponding stamp that may be found on the part, as well as typical parts that may be made from the type of plastic.

PLASTIC TYPE	CAN BE USED ON PARTS MARKED	PART EXAMPLES
Polypropylene "PP"	PP, PP/EPDM, PP / T20, TPO, TEO, TSOP	Bumper covers, valance panels, headlights, fuse boxes, air intake parts, engine covers, underbody covers, fluid tanks, rocker moldings fender flares, trim panels, valance panels, case moldings & core supports.
ABS "ABS"	ABS, ABS + PC, ABS + PA	Grilles, cowl grilles, dash bezels, mirror covers, car door handles, trim panels & finish panels.
Polyethylene "PE"	PE, LDPE, HDPE, PPE	Fender liners, splash shields, fluid tanks, and underbody covers.
Polycarbonate "PC"	PC, PC + ABS, PC + PBT	Bumper covers, finish panels, dash parts, core supports & Saturn door skins.
Polyurethane "PUR"	PU, PUR, PRIM, RIM, TPU, TPUR	Bumper covers, rocker moldings, case moldings. These parts are typically found on older or low production vehicles, such as a Corvette.