

STANLEY®

EP30 ELECTRONIC PIN BRAZING UNIT

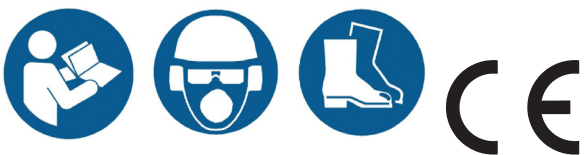


EP30250



EP30200

SAFETY, OPERATION AND MAINTENANCE USER MANUAL



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New Britain, CT 06053
U.S.A.
69924 6-2014 Ver-7

DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY
ÜBEREINSTIMMUNGS-ERKLÄRUNG
DECLARATION DE CONFORMITE CEE
DECLARACION DE CONFORMIDAD
DICHIARAZIONE DI CONFORMITA

STANLEY.
Hydraulic Tools
CE

I, the undersigned:
Ich, der Unterzeichnende:
Je soussigné:
El abajo firmante:
Io sottoscritto:

Weisbeck, Andy

Surname and First names/Familiennamen und Vornamen/Nom et prénom/Nombre y apellido/Cognome e nome

hereby declare that the equipment specified hereunder:
bestätige hiermit, daß erklaren Produkt genannten Werk oder Gerät:
déclare que l'équipement visé ci-dessous:
Por la presente declaro que el equipo se especifica a continuación:
Dichiaro che le apparecchiature specificate di seguito:

- Category: **Pin Braze / Safebond Unit (Product Group-Railroad)**
Kategorie:
Catégorie:
Categoria:
Categoria:
- Make/Marke/Marque/Marca/Marca **Stanley Hydraulic Tools**
- Type/Typ/Type/Tipo/Tipo: **EP30 / EP60**
- Serial number of equipment:
Seriennummer des Geräts:
Numéro de série de l'équipement:
Numero de serie del equipo:
Matricola dell'attrezzatura: **All**

Has been manufactured in conformity with
Wurde hergestellt in Übereinstimmung mit
Est fabriqué conformément
Ha sido fabricado de acuerdo con
E' stata costruita in conformità con

Directive/Standards Richtlinie/Standards Directives/Normes Directriz/Los Normas Direttiva/Norme	No. Nr Numéro No n.	Approved body Prüfung durch Organisme agréé Aprobado Collaudato
EMC Directive	2004/108/EC	Self
SS-EN	60974-10	Self

- Special Provisions: **None**
Spezielle Bestimmungen:
Dispositions particulières:
Provisiones especiales:
Disposizioni speciali:
- Representative in the Union: **Patrick Vervier, Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France.**
Vertreter in der Union/Représentant dans l'union/Representante en la Union/Rappresentante presso l'Unione

Done at/Ort/Fait à/Dado en/Fatto a Stanley Hydraulic Tools, Milwaukie, Oregon USA Date/Datum/le/Fecha/Data 1-10-11

Signature/Unterschrift/Signature/Firma/Firma

Andy Weisbeck

Position/Position/Fonction/Cargo/Posizione Engineering Manager

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IMPORTANT

To fill out a Product Warranty Validation form, and for information on your warranty, visit Stanleyhydraulics.com and select the Company tab, Warranty.
(NOTE: The warranty Validation record must be submitted to validate the warranty).

SERVICING: This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of the unit, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

⚠ WARNING

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.

SAFETY SYMBOLS

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.



DANGER

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

WARNING

This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.

CAUTION

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.

IMPORTANT

This signal word indicates a situation which, if not avoided, will result in damage to the equipment.

This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

LOCAL SAFETY REGULATIONS

Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

SAFETY PRECAUTIONS

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

This tool will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool before operation. Failure to do so could result in personal injury or equipment damage.



- Do not operate a damaged, improperly adjusted, or incompletely assembled tools.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Stanley Hydraulic Tools.

- Operator must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes, dangerous terrain conditions, and rail traffic.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, ear, head protection, and respiratory protection at all times when operating the tool.
- Do not inspect or clean the tool while the battery power source is connected. Accidental arcing can cause serious injury.
- Do not load brazing pins or ceramic rings while the battery power source is connected. Accidental arcing can cause serious injury.
- Do not use the tool while it is connected to a battery charger.
- Ensure battery charging is only done in a dry environment. Charging batteries in the rain or near standing water presents an electrocution hazard. Read the safety and operation instructions provided with the battery charger before using the battery charger.

EP30200 OPERATION

GENERAL PROTECTION

Store the Electronic Pin Brazing Unit in a place where it is protected from the elements, abrasive dust, and damage.

Use only recommended repair and replacement parts and materials specified in the Parts List section of this manual.

Use only recommended accessories also specified in the Parts List section of this manual.

Do not use the Electronic Pin Brazers for applications it was not designed for.

Use the carrying handle to transport the unit from location to location.

CLEANING

Establish a routine to keep the unit as free from dirt as possible – daily, or at each shift change, for example.

Pin Brazers exposed to rain, sand, or grit-laden air should be cleaned prior to each use.

Keep tool labels and stickers legible.

PREOPERATION PROCEDURES

Before putting a new Pin Brazer into initial service, or after an extended period of being unused, perform a visual inspection for bent, broken, cracked, missing or worn components.

INITIAL SETUP AND BATTERY CHARGING

⚠ WARNING

Failure to follow the instructions in the battery charger operation manual can result in battery explosion and serious bodily injury. To reduce the risk of battery explosion, read and understand the safety and operation instructions in the battery charger operation manual, the instructions published by the battery manufacturer, and the instructions in this manual before attempting to charge the batteries.

⚠ WARNING

Make sure battery charging is only accomplished in a well ventilated room. **DO NOT PLACE THE CONTROL BOX ON TOP OF THE BATTERIES. REMOVE THE BATTERY BOX COVER.** Battery charging produces explosive gases. A battery explosion can cause serious injuries. Avoid battery explosions by keeping cigarettes, sparks, and flames away from batteries being charged. Always wear safety glasses when working with batteries.

1. The three batteries furnished are sealed, maintenance free batteries.

Sealed, maintenance free batteries do not contain cell caps and are already filled with battery acid. They will require charging before use.

NOTICE

Use only battery charger specially made for pin brazing units (36V dc) approved by Stanley.

2. Locate the four battery cables and connect them to the terminals on the batteries and the battery box as shown in figure 1. Do not replace the lid on the battery box at this time.

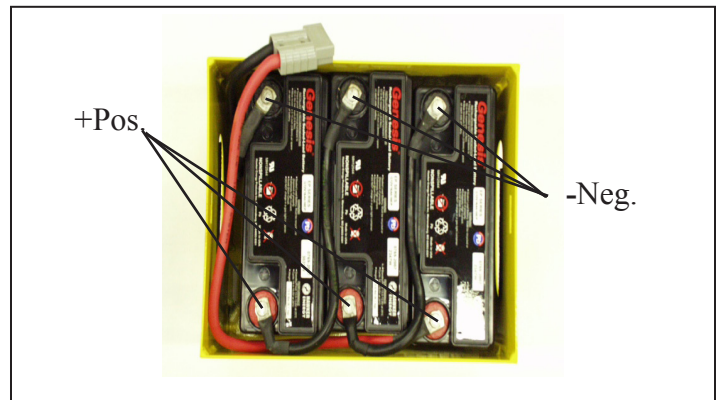


Figure 1. Battery cable and terminals

3. Insert the enclosed foam-rubber spacers between each battery and at both ends between the battery and the unit.

4. Connect the battery charger to the grinder outlet on the unit, then to the mains. When removing the charger remove the main first, the remove the plug from the unit.

EP30200 OPERATION

5. Charging is ready in approximately 3-5 hours. Follow the instructions in the battery charger manual to complete the charging process.

6. Plug the two cable leads from the adapter box into the battery box.

7. Insert the plug from the battery charger into the grinder outlet on the adapter box.

8. Plug the battery charger into a standard 110 volt AC outlet.

9. Follow the instructions in the battery charger manual to complete the charging process.

CONNECTIONS

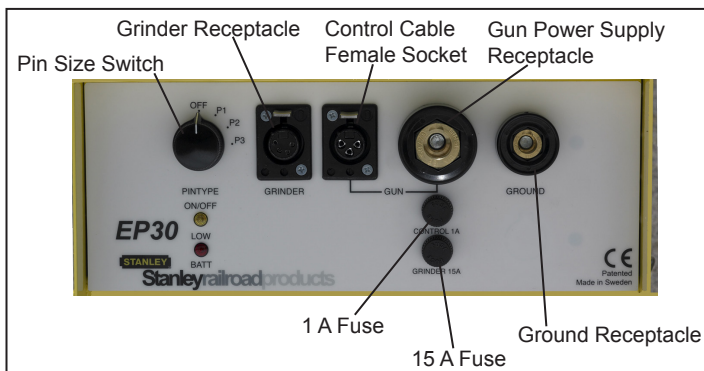


Figure 2. EP30 Connections

1. Connect the brazing gun, power and trigger cables to the unit.
2. Connect the ground cable .
3. Connect the grinder.

OPERATION

PREPARE THE RAIL SURFACE

Select the type and length of bonding cable to use for the bond and use it as a guide to determine where brazing points on the rail will be required.

Before brazing, the rail must be cleaned of rust, corrosion, paint, pits, or other contamination at the points where the brazing is going to be done and on an area close to the brazing for placement of the grounding cable. Cleaning is accomplished with a grinder to ensure clean, bare metal.

NOTE:

Use only grinding wheels furnished by Stanley. Other wheels have shown to leave residues which cause faulty brazing.

⚠ CAUTION

Always use eye protection when grinding and brazing.

1. Grind the surface of the rail where brazing is going to be done, until the surface shows shiny metal, free of rust, corrosion, pits, or other contamination. When grinding, use the edge of the grinding wheel - not the face of the wheel.

2. Grind the surface of the rail where the grounding cable will be placed to ensure a good ground. The grounding cable should be placed in close proximity to the brazing area.

PLACING THE GROUNDING CABLE

3. When finished grinding the rail for placement of the grounding cable, place the grounding cable on the cleaned surface and then insert the other end into the twist lock receptacle in the control box marked "GROUND" or "EARTHING" and twist to lock.

SELECT PINS AND RINGS

4. Select brazing pins and ceramic rings to match the specifications of the bonding cable you selected.

CHANGING PIN AND RING HOLDER

5. Check that the pin holder and ring holder on the gun are the correct sizes for the brazing pins and ceramic rings you selected. If the sizes are incorrect, the pin holder and ring holder can be changed as follows:

EP30200 OPERATION

a. The ring holder is a "push fit" to the gun. To remove it from the gun, simply pull it away from the gun.

b. The pin holder is threaded onto a threaded shaft in the gun and locked in place with a nut. Place an open end wrench over the nut and an open end wrench over the flats on the pin holder. While holding the nut in place, unscrew the pin holder counter clockwise.

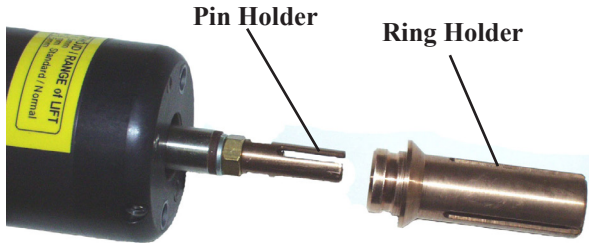


Figure 3. Pin and Ring Holder

c. Install the correct pin holder and tighten it securely against the nut.

IMPORTANT

Make sure, never twist the axle when mounting the pin holder.

d. Install the correct ring holder by placing it over the pin holder and into the circular groove in the gun, and finally, pushing on it to seat it in place.

LOADING PIN AND RING

6. Insert the brazing pin into the pin holder. The rounded tip should be facing away from the gun.

7. Insert the ceramic ring into the ring holder. The serrated edge should be facing away from the gun. See figure 4.



Figure 4. Loading pin and ring

ADJUSTING BRAZING PIN DISTANCE TO BRAZE SURFACE

The BG10100 automatically adjusts the correct distance of the brazing pin to the surface to be brazed.

NOTE:

The BG10100 may be adjusted manually if necessary using the dial located on the back of the gun. The settings are as follows:

+ = 2.5 mm distance

0 = 2.0 mm distance (normal position)

- = 1.5 mm distance



Figure 2. Gun Adjustment Dial

8. Plug the two gun cable into the appropriate outlets on the control box.

SET CONTROL FOR PIN SIZE

9. Set the PIN TYPE switch on the control box for the appropriate pin type being used. See Figure 3 below.

Brazing Pin	Setting
8 mm Std	P1
8 mm Extra	P2
9.5 mm	P3

SWITCH



Figure 3. Pin Type Control Switch

10. Turn the POWER switch to 1.

EP30200 OPERATION

NOTE:

The EP30 does not have a power switch.

11. Position the terminal lug of the bonding cable against the cleaned surface of the rail. Position the gun against the cable lug so that the brazing pin is at the top edge of the cable lug hole. See Figure 4 below.

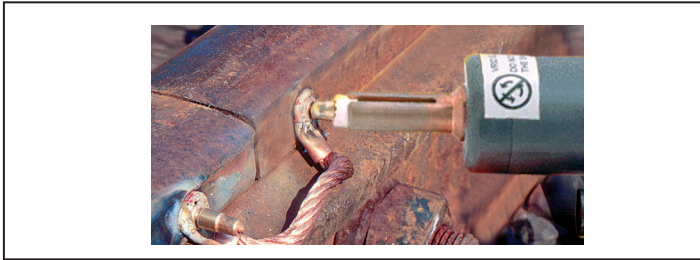


Figure 4. Gun position

IMPORTANT

Make sure the correct ferrule and brazing pin are used. The pin braze must be made in the top of the hole when brazing to a vertical surface.

12. Hold the gun firmly with both hands and pull the trigger once. The electronics will finish the braze automatically.

13. Hold the gun in place for 3-4 seconds after the brazing is complete to allow for cooling. Then remove the gun straight backwards without pulling trigger.

14. After the braze has cooled, knock the shank off the brazing pin using a hammer.

15. Use a new ceramic ring for each new pin braze.

NOTE:

A red light indicates low batteries on the unit. Charge as soon as possible.

EP30250 OPERATION

⚠ CAUTION

The S300 requires a welding machine capable to deliver 250-300 Amp, open circuit voltage of max. 80V.
(Not supplied by Stanley)

1. Check that all parts were received.

EP300 Unit Delivered with:
Gun S15, incl 2,7 m SAFE 91015
Ground device 2,7 m SAFE 8089
1 - Power cord
2 - Power cable 3 m

2. Connect

Connect power cords to mains and power cables to an welding machine.
(Welding machine not supplied by Stanley).
Make sure positive and negative is correct.

Set welding current on welding machine to 250 Amp.
(Max 280 Amp)
Open circuit voltage of max. 80V.

Connect brazing gun, power cable and control cable, to units gun outlets.
Connect ground magnet to ground outlet.



EP30250 OPERATION

3. Brazing instruction.

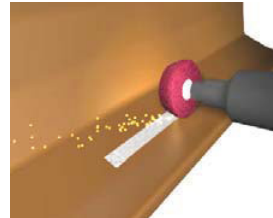
⚠ WARNING

Warning! Always use eye protectors when grinding and brazing!

Note, use only STANLEY's grinding wheel specially made for brazing, other type of wheels will leave a surface not suitable for brazings. Keep the grinding wheel clean and free from oil etc.

IMPORTANT

- Grind the brazing and grounding area until you have an even and clean surface

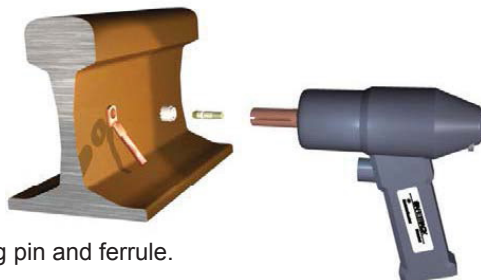


Move the grinder up and down until you have an even surface for both the pinbrazing and ground magnet.

- Attach the earth magnet on the same rail/work piece where the pinbrazing should be done. Try to attach the magnet within 0,5m from brazing area.

- Set pintype:

Pin	Setting
8 mm std	1
8 mm Extra	2
9,5 mm	3



- Load the gun with brazing pin and ferrule.

EP30250 OPERATION

- Press carefully the gun with the cable shoe, the ferrule and the brazing pin to the work piece.

- Note that you always must use a railbond together with the brazing pin and the ferrule to do a pin brazing, except when brazing a special threaded brazing pin then only a ferrule and M8, M10 or M12 brazing pin is to be used.

- Make sure to braze in the top of the hole when brazing to a vertical surface.



Brazing.

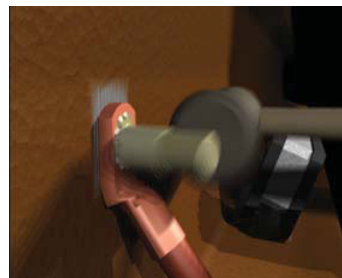
- Hold the gun firmly with both hands as shown and pull the trigger just once. The electronic will by it self finish the brazing process.

- Hold the gun in place for 3-4 sec after the brazing while the braze freezes.

- Remove the gun straight backwards without pulling the trigger!

Knock off the shank of the brazing pin.

The brazing is completed.



ACCESSORIES EP300

SEE PAGE 17

- Pin holder 8-9,5 mm (A)
- Pin holder M8 (B)
- Pin holder M10 (C)
- Pin holder M12 (D)
- Ring holder 8-9,5 mm
- Ring holder M8/M10/M12

EP30250 MAINTENANCE

PIN HOLDERS

Squeeze the fingers on the pin holder together each time you feel that the brazing pin goes in too easy when mounting them into the pin holder. This is important since all the current goes thru the pin holder to the brazing pin. If the fingers are too loose the pin holder will be damaged and must be replaced.

CHANGE PIN HOLDER

- Separate the ring holder from the gun with your hands.
- Hold the nut closest to the pin holder with a 10mm key.



- Screw the pin holder off.
- When replacing the new pinholder, hold the nut, closest to the pinholder even now.

⚠ WARNING

WARNING! Never rotate the shaft! The internal cables may be damaged!

EQUIPMENT

- Check the cables from time to time, to make sure they are not damaged.
- Check the contact surface on the ground magnet from time to time and use a file to even or clean the surface.

BRAZING PINS AND FERRULES

- Keep them dry.

RAILBONDS AND CABLE LUGS

- Keep them free from oxidation.
- Keep them free from contamination like: Grease, oil, dirt, paint, glue etc.
- Make sure that they are not damaged.

TROUBLESHOOTING

EP30250

In order to perform this trouble shooting you will need: voltmeter, 8 mm and 10 mm spanners, hexagon spanner 3 mm, 4mm and 5 mm, control instrument to check lift height for S15 pistol.

Working material	Are the bonds in good condition - no breaks, clean ? Are the pins of the correct type ?
Grinding wheel	Is the grinding wheel the approved type ? The Tyrolit is a silicon free wheel. You can use a steel carbide wheel. No other wheels are allowed.
Brazing gun S 15	Check cables, plugs. Does axle move easily with pin and ring installed ? Are the pin and ring holders bent ? Unscrew the front of the gun and open carefully. Smell if there is burning, otherwise clean and replace. Check the lifting height with the control instrument.
Ground magnet	Is the magnet broken (between the plates) ? Is the plug well screwed in ? Make sure the contact surfaces are even.
Electronic units	Check cables and connections for play. Are the contact on the cables damaged ? Are the knobs loose ? Are the fuses whole ? Open the panel, check for a burnt smell, (the breaker can have burnt out) Check that cables are attached correctly. Make a full optical control.

EP30200

PROBLEM	CAUSE	SOLUTION
Brazing pin does not ignite or does not ignite long enough.	Batteries not charged or are defective.	Test batteries for proper charge. Replace and/or charge as necessary.
	Blown fuse.	Check fuses.
	Magnetic ground faulty.	Check that surface magnetic ground is applied to is ground clean. Check magnetic ground cable and plug for damage.
Braze is faulty.	Faulty cables.	Check gun cables and plugs for damage.
	Bonding surface contaminated.	Check that the brazing surface is ground clean.
	Batteries not charged or are defective.	Test batteries for proper charge. Replace and/or charge as necessary.
	Incorrect PIN TYPE setting.	Check PIN TYPE setting on the control box.
	Magnetic ground faulty.	Check that surface magnetic ground is applied to is ground clean. Check magnetic ground cable and plug for damage.
	Bonding surface contaminated.	Check that the brazing surface is ground clean.
	Incorrect grinding wheel is used.	Use only Tyrolit grinding wheels or carbide burr.
	Ceramic ring was not positioned square to the lug.	Ensure ring is positioned correctly.
	Brazing pin not positioned correctly in lug hole.	Ensure pin is positioned correctly.

EQUIPMENT MAINTENANCE & CARE

NOTICE

In addition to the Safety Precautions in this manual, observe the following for equipment protection and care.

- Check that the pin holder is not burnt or not holding the pin tightly. If not, remove the ring holder, clean all the parts and squeeze the fingers of the pin holder together.
- Check the cables on the gun from time to time for damage. Replace as required.
- Check that the lift level is correct with lift level tool.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Always keep critical equipment markings, such as warning stickers and tags legible.
- Equipment repair should be performed by experienced personnel only.
- Do not use the equipment for applications for which it was not intended.

SPECIFICATIONS

EP30200

Voltage.....	36V dc
Approximate Number of Brazings per Battery Charge	40-60
Weight	44 lbs / 20 kg
Overall Length	12.5 in. / 315 mm
Overall Width	8.75 in. / 220 mm
Overall Height.....	16 in. / 400 mm

EP30250

..... - This unit does not have on-board batteries but is powered by an external welding machine (not included) capable of 250-300 amps at 80 volts. Otherwise this has the same functionality and uses the same accessories as our other EP30 units.

ACCESSORIES

35812.....	Carrying Case
58867.....	Transport Wagon, EPX 31, EP30

EP30010 (Includes Items Below).....	Pin Brazing Kit 110VAC
35866.....	Battery Charger
40409.....	Battery, Genesis 16amp 12V (3)
72776.....	Nonspillable Battery Label
73358.....	Carbide Burr SF-5
EP30200.....	Medium Duty Elec. Pin Brazing Unit
BG10100.....	Pin Brazing Gun
HGE12151.....	Grinder, Elec. Cordless Kit (Includes: Grinder, Charger 120V & Battery Lithium-Ion 18V)

EP30020 (Includes Items Below).....	Pin Brazing Kit 110V/12VDC
73358.....	Carbide Burr (1/4 in. Shank)
35812.....	Carrying Case
35818.....	Extension Cable for S4 Pistol
35819.....	Extension Cable for Earth 5m
35866.....	Battery Charger
40409.....	Battery, Genesis 16amp 12V (3)
47320.....	Inverter 12VDC to 110VAC
72776.....	Nonspillable Battery Label
EP30200.....	Medium Duty Elec. Pin Brazing Unit
BG10100.....	Pin Brazing Gun
HGE12151.....	Grinder, Elec. Cordless Kit (Includes: Grinder, Charger 120V & Battery Lithium-Ion 18V)

ACCESSORIES

BRAZING PINS & CERAMIC RINGS

STANDARD BRAZING PINS

Part No.	Description
35835	8 mm
35836	8 mm w/ extra silver
35837	9.5 mm
35840	M8/12 Threaded
35841	M10 Threaded
35839	M12 Threaded

NOTICE

Brazing Pins are for use on Rail Only

Ceramic Ring Req'd

35832
35832
35833
35834
35834
35834



CERAMIC RINGS

Part No.	Description
35832	8 mm
35833	9.5 mm
35834	12 mm



PIN & RING HOLDERS

Part No.	Description
35826	Pin Holder for Pinbrazing, 8-9,5 mm brazing pins.
35827	Pin Holder for Pinbrazing, M8 Threaded pins.
35828	Pin Holder for Pinbrazing, M10 Threaded pins.
35829	Pin Holder for Pinbrazing, M12 Threaded pins.
35825	Extended pin and ring holder set for 8-9,5 mm brazing pins.
37945	Ring Holder, 8 mm pin & ringholder Set
35830	Ring Holder, 8-9,5 mm ceramic rings.
35831	Ring Holder, M8/M10/M12 mm ceramic rings.



35827 Pictured



35831 Pictured

CABLE LUGS (for Pin Brazing to rail)

Part No.	Description	Brazing Pin Req'd
47523	Braze Lug for 25 mm Cable	35836
47524	Braze Lug for 35 mm Cable	35836
47525	Braze Lug for 50 mm Cable	35836
39241	Cable Shoe #6	2 x 35836
35847	Cable Shoe 10 mm	35835
35855	Cable Shoe D=8 mm	35836
47526	Cable Lug for 16 mm Cable	35835
47527	Cable Lug for 25 mm Cable	35836
47528	Cable Lug for 35 mm Cable	35836
47529	Cable Lug for 50 mm Cable	35836
47522	Cable Lug 5/8" ground rod to #2 cable	2 x 35836
47521	Braze Sleeve #6 to #6	35836
41625	Multi-Wire Track Connection	2 x 35836
35865	Clip for 18x5mm	35835
67122	Brazing Clip (Secures Wire to Rail)	35835



47523 Pictured



39241 Pictured



47527 Pictured



47521 Pictured



41625 Pictured



67122 Pictured

ACCESSORIES

BONDING CABLE WITH LUGS (for Pin Brazing)

Part No.	Description	Brazing Pin Reqd
35845	1 AWG / 50 mm ² , 185 mm long, copper	35837
35844	4 AWG / 25 mm ² , 145 mm long, copper	35835
39243	3/16 Bond, 300 mm long	35835
39244	25 mm ² , 200 mm long	35835
37944	50 mm ² , 185 mm long	35836
	 35844 Pictured	
39705	Bond Wire 16" OAL x 25 mm	35835
39706	Bond Wire 24" OAL x 25 mm	35835
39707	Bond Wire 36" OAL x 25 mm	35835
	 39242 Pictured	
39242	3/16 Bond Crimpable Sleeve	35835
40366	Signal Extension Bond 3/16" (170 mm)	35835
40091	Signal Extension Bond 150 mm L=430	35837
40090	Signal Extension Bond 2 x 35 mm - 2 x L=170	35836
	 40366 Pictured	
41635	3/16 Signal Bond Wire W/Eye & Crimpable sleeve 24 inch long	35835
58563	3/16 x 7"/180 mm Long with Electrode & Ferrule	
41815	3/16 Bond 12' Long Eyelet one end, AL block for Tig Weld Other End	35835
	 41635 Pictured	
43686	Extension Bond CU, 25 mm ² , x 330 mm Long	35835
43519	3/16 Extension Bond 12"	35835
41225	Bond Wire 34" Long C/L-C/L W/9 mm eyelets on both ends	35835
41226	Bond Wire 46" Long C/L-C/L W/9 mm eyelets on both ends.	35835
66579	25mm ² x 500mm Extension Bond	35835
66580	25mm ² x 900mm Extension Bond	35835
66269	Signal Bond 3/16" x 6' Braze Lug Both Ends	35835
	 67634 Pictured	
67634	Railbond 300 mcm L=330 mm Uninsulated (4) 9.5 Pins Required	35837
73652	Railbond 300 mcm L=430 mm Use with 4X Pins	
73016	Railbond 300 MCM	
72988	Railbond 3/16, 4 in. Reversed (50 pack)	
72989	Railbond 3/16, 6 in. Reversed (50 pack)	
73016	300MCM Rail Bond	
67635	Extension Bond 300 mcm x 200 mm crimp sleeve (2) 9.5 Pins Required	35837
	 67635 Pictured	
47530	Bungalow Grounding Bond 3/16"	35836

"T" CONNECTORS (for Pin Brazing)

TYPE C

Part No.	Description
35857	Copper Plate with M8 x 18 Brass Threaded Stud



Brazing Pin Reqd
35835 x 2

35857 Pictured

TYPE D

Part No.	Description
35860	Copper Plate with M16 x 26 Stainless Steel Threaded Stud
35861	Copper Plate with M16 x 32 Stainless Steel Threaded Stud



Brazing Pin Reqd
35837 x 4
35837 x 4

35860 Pictured

ACCESSORIES

Grinder Abrasives

Part No.	Description
73358	Carbide Burr (1/4 in. Shank)
35810	Grinding Wheel "Note, Not for SAFEBONDING!"
73052	Bull Nose Stone 2 inch (1/4 inch Shank)










Fuses, Chargers, & Batteries

Part No.	Description
56557	Fuse, PCB EP30/60
56558	Fuse, Grinder Outlet EP30
56559	Fuse, Control Cable EP30
56560	Auto Fuse, 5A EP60
56561	Auto Fuse, 15A EP60
56562	Auto Fuse, 30A EP60
35866	Charger 36 VDC 7 AMP EP30/60 W/ Special DC plug.
47320	Inverter 12V DC-110VAC
41769	Battery Charger for EP60 20A 36V DC PLG Continuous Use
40409	Battery 16 AH 12 Volt EP30
39434	Battery 30 AH EP60





ACCESSORIES

CABLES

Part No.	Description	
35809	Ground Cable _____	
35806	Carrying Harness _____	
35820	Extension Cable for Grinding _____	
35819	Extension Cable for Ground _____	
41768	Adapter, Charging _____	
62214	Pigtail Charge Adapter _____	
66266	Ground Clamp Assembly (Vise Grip Style) _____	
72999	Econect Ground Magnet (Magnetic ground for econect kit) (Not Pictured)	
35818	Extension Cable for S4 Brazing Gun (Not Pictured)	
35816	Standard Cable for S4 Pistol 2.7m/8.8ft (Not Pictured)	
35817	Long Cable for S4, 4.5m/14.75ft (Not Pictured)	

GRINDER

Part No.	Qty	Description	
HGE12141		Grinder Only (NO Battaery or Charger)	
HGE12151		Includes: Grinder, Battery and Charger.	
HGE12161		Includes: Grinder, Battery, Charger and Bull Nose Stone	
HGE12161B		Includes: Grinder, Battery, Charger and Bull Nose Stone & BNSF Stone.	
73399		Battery 18V and Charger 120V	
73400		Battery Lithium 18V LI-ION	

ACCESSORIES

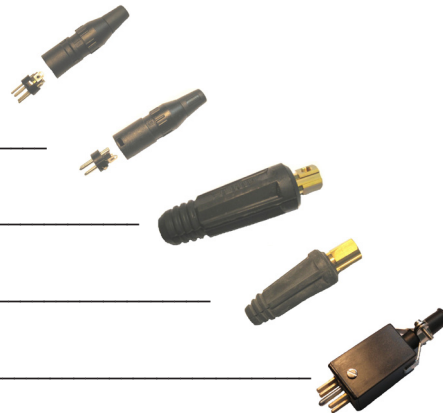
GUNS

Part No.	Description
BG10100	Pin Brazing Gun _____
BG10101	Angle Head Gun _____



Plugs

Part No.	Description
35823	Plug Male Grinder 4-Pin _____
65831	Plug Male Controller Gun 3-Pin _____
66696	Plug Male Power Supply Gun Cable _____
66697	Plug Male Ground Cable _____
56556	Carger/Generator Plug _____

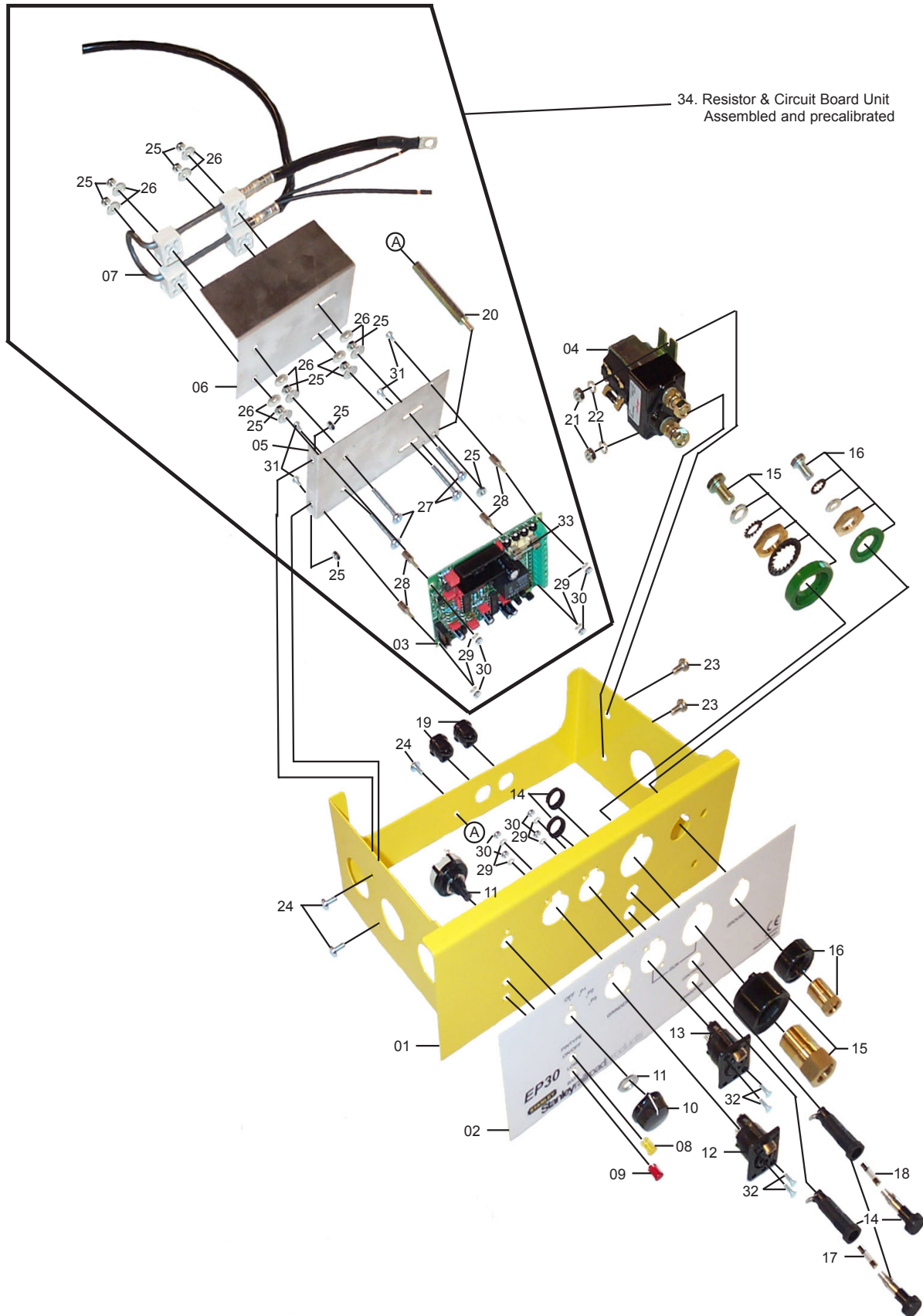


Tools

Part No.	Description
37946	Hole Punch Tool 9.5mm
35824	Hole Punch Tool 8.0mm
62394	Lift Height Tool BG10100 Pin Braze Gun

EP30 PARTS ILLUSTRATION

INTERNAL ELECTRONIC CONTROL BOX



EP30 PARTS LIST

Item	Part No.	Qty	Description
01	66838	1	FRAME EP30
02	66846	1	LABEL EP30
03	66839	1	CIRCUIT BOARD
04	66018	1	RELAY
05	66840	1	CIRCUIT BOARD MOUNTING PLATE
06	66841	1	RESISTOR MOUNTING PLATE
07	66698	1	RESISTOR ASSY W/CABLE
08	66843	1	YELLOW LED LENS
09	66844	1	RED LED LENS
10	66694	1	KNOB FOR ROTARY SWITCH
11	66695	1	ROTARY SWITCH
12	66691	1	GRINDER RECEPTACLE
13	65830	1	GUN CONTROL RECEPTACLE
14	66847	2	FUSE BRACKET 5x20
15	66692	1	GUN POWER SUPPLY RECEPTACLE
16	66693	1	GROUND RECEPTACLE
17	56558	1	FUSE FOR GRINDER 15A
18	56559	1	FUSE 1A
19		2	STRAIN RELIEF BUSHINGS
20		1	SPACER
21		2	NUT M6
22		2	SHAKEPROOF WASHER M6
23		2	SCREW M6x10
24		3	SCREW M4x8
25		10	NUT M4
26		12	WASHER M4
27		4	SCREW M4x30
28		4	SPACER
29		8	WASHER M3
30		8	NUT M3
31		4	SCREW M3x6
32		4	SCREW M3x10
33	56557	1	GLASS FUSE FOR PCB
34	66845	1	RESISTOR & CIRCUIT BOARD UNIT (As shown on previous page outlined by black line).
	66131	1	EP30 ELECTRONIC BOX Complete unit as shown on previous page.
	35801	1	Battery Box



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