TAFA 9300
Transformer-Rectifier Power Source

For the Following Spec:

- 100006-001 200/230/400/460/575 V 50/60 Hz

OWNER'S MANUAL Number **193111-023**
Revised February 14, 2000

IMPORTANT: Read these instructions before installing, operating, or servicing this system.

TAFA INCORPORATED, CONCORD, NEW HAMPSHIRE 03301, U.S.A.

DECLARATION OF CONFORMANCE

We,

THERMAL ARC
2200 Corporate Drive
Troy, Ohio USA 45373-1085

Declare under our sole responsibility that the following product(s):

TAFA 9300

to which this declaration relates is (are) in conformity with the following standard(s) or other normative document(s):

1) EMC Directive 89/336/EEC of 3 May 1989 as amended by 92/31/EEC of 28 April 1992 and 93/68/EEC of 22 July 1993 by meeting the provisions of EN50199 "EMC Product Standard for Arc Welding Equipment".

2) Low Voltage Directive 73/23/EEC of 19 February 1973 as amended by 93/68/EEC of 22 July 1993 by meeting the provisions EN60974-1 "Safety requirements for arc welding equipment Part 1: Welding Power Sources" (IEC-974-1:1989) and the Draft Revision IEC-974-1 of October 1996.

23 April 1999

Wayne Beisner
Director of Engineering
Welding Equipment

CE

INTRODUCTION

How To Use This Manual

This Owner's Manual usually applies to just the underlined specification or part numbers listed on the cover. If none are underlined, they are all covered by this manual.

To ensure safe operation, read the entire manual, including the chapter on Safety Instructions and Warnings.

Throughout this manual, the words **WARNING, CAUTION**, and **NOTE** may appear. Pay particular attention to the information provided under these headings. These special annotations are easily recognized as follows:

WARNING gives information regarding possible personal injury. Warnings will be enclosed in a box such as this.

CAUTION refers to possible equipment damage. Cautions will be shown in bold type.

NOTE offers helpful information concerning certain operating procedures. Notes will be shown in italics.

Equipment Identification

The unit's identification number (specification or part number), model, and serial number usually appear on a nameplate attached to the control panel. In some cases, the nameplate may be attached to the rear panel. Equipment which does not have a control panel such as gun and cable assemblies are identified only by the specification or part number printed on the shipping container. Record these numbers for future reference.

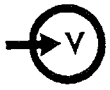
Receipt Of Equipment

When you receive the equipment, check it against the invoice to make sure it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Furnish complete information concerning damage claims or shipping errors to TAFA, Order Department, 146 Pembroke Road, Concord, New Hampshire 03301. Include all equipment identification numbers as described above along with a full description of the parts in error.

Move the equipment to the installation site before uncrating the unit. Use care to avoid damaging the equipment when using bars, hammers, etc., to uncrate the unit.

Additional copies of this manual may be purchased by contacting TAFA at the address given above. Include the Owner's Manual number and equipment identification numbers.

Meanings Of Markings And Graphical Symbols:

	Output Control Increase/Decrease
	Circuit Breaker
	Input Voltage Switch
	Wire Feed
115V AC 10 AMPS 	Receptacle Rating For Auxiliary Power

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ARC SPRAYING SAFETY INSTRUCTIONS AND WARNINGS

⚠ WARNING — ARC SPRAYING can be hazardous.

PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS KEEP AWAY UNTIL CONSULTING YOUR DOCTOR. DO NOT LOSE THESE INSTRUCTIONS. READ OPERATING/INSTRUCTION MANUAL BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

Welding products and welding processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of welding and cutting. These practices must be learned through study and training before using this equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld. Certain of the practices apply to equipment connected to power lines; other practices apply to engine driven equipment.

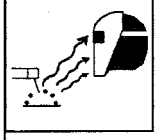
Safe practices are outlined in the American National Standard Z49.1 entitled: SAFETY IN WELDING AND CUTTING. This publication and other guides to what you should learn before operating this equipment are listed at the end of these safety precautions.

HAVE ALL INSTALLATION, OPERATION, MAINTENANCE, AND REPAIR WORK PERFORMED ONLY BY QUALIFIED PEOPLE.

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. Incorrectly installed or improperly grounded equipment is a hazard.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Disconnect input power or stop engine before installing or servicing this equipment. Lock input power disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
4. Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.
5. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
6. Do not use worn, damaged, undersized, or poorly spliced cables.
7. Do not wrap cables around your body.
8. Use only well-maintained equipment. Repair or replace damaged parts at once.
9. Wear a safety harness to prevent falling if working above floor level.
10. Keep all panels and covers securely in place.



ARC RAYS can burn eyes and skin; NOISE can damage hearing.

Arc rays from the spraying process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some processes can damage hearing.

1. Wear a welding helmet fitted with a proper shade of filter (see ANSI Z49.1 listed in Safety Standards) to protect your face and eyes when thermal spraying or watching.
2. Wear approved safety glasses. Side shields recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Use approved ear plugs or ear muffs if noise level is high.

Eye protection filter shade selector for welding or cutting (goggles or helmet), from AWS A6.2-73.

FUMES AND GASES can be hazardous to your health.

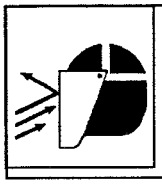
Arc spraying produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

1. Keep your head out of the fumes. Do not breath the fumes.
2. If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
3. If ventilation is poor, use an approved air-supplied respirator.
4. Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metals, consumables, coatings, and cleaners.
5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Shielding gases used for spraying can displace air causing injury or death. Be sure the breathing air is safe.

WELDING can cause fire or explosion.

Sparks and spatter fly off from the arc spray. The flying sparks and hot metal, spatter, hot workpiece, and hot equipment can cause fires and burns.

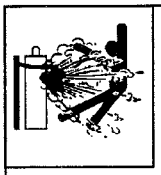
1. Protect yourself and others from flying sparks and hot metal.
2. Do not spray where flying sparks can strike flammable material.
3. Remove all flammables within 35 ft (10.7 m) of the spray arc. If this is not possible, tightly cover them with approved covers.
4. Be alert that sparks and hot materials from arc spray can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.



FLYING SPARKS AND HOT METAL can cause injury.

Chipping and grinding cause flying metal.

1. Wear approved face shield or safety goggles. Side shields recommended.
2. Wear proper body protection to protect skin.



CYLINDERS can explode if damaged.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
2. Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never allow a welding electrode to touch any cylinder.
5. Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
6. Turn face away from valve outlet when opening cylinder valve.
7. Keep protective cap in place over valve except when cylinder is in use or connected for use.
8. Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

⚠ WARNING — **ENGINES can be hazardous.**

ENGINE EXHAUST GASES can kill.

Engines produce harmful exhaust gases.

1. Use equipment outside in open, well-ventilated areas.
2. If used in a closed area, vent engine exhaust outside and away from any building air intakes.

ENGINE FUEL can cause fire or explosion.

Engine fuel is highly flammable.

1. Stop engine before checking or adding fuel.
2. Do not add fuel while smoking or if unit is near any sparks or open flames.
3. Allow engine to cool before fueling. If possible, check and add fuel to cold engine before beginning job.
4. Do not overfill tank — allow room for fuel to expand.
5. Do not spill fuel. If fuel is spilled, clean up before starting engine.

MOVING PARTS can cause injury.

Moving parts, such as fans, rotors, and belts can cut fingers and hands and catch loose clothing.

1. Keep all doors, panels, covers, and guards closed and securely in place.
2. Stop engine before installing or connecting unit.
3. Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
4. To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing, and tools away from moving parts.
6. Reinstall panels or guards and close doors when servicing is finished and before starting engine.

SPARKS can cause BATTERY GASES TO EXPLODE; BATTERY ACID can burn eyes and skin.

Batteries contain acid and generate explosive gases.

1. Always wear a face shield when working on a battery.
2. Stop engine before disconnecting or connecting battery cables.
3. Do not allow tools to cause sparks when working on a battery.
4. Do not use welder to charge batteries or jump start vehicles.
5. Observe correct polarity (+ and –) on batteries.

STEAM AND PRESSURIZED HOT COOLANT can burn face, eyes, and skin.

The coolant in the radiator can be very hot and under pressure.

1. Do not remove radiator cap when engine is hot. Allow engine to cool.
2. Wear gloves and put a rag over cap area when removing cap.
3. Allow pressure to escape before completely removing cap.

NOTE: Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields

The following is a quotation from the General Conclusions Section of the U.S. Congress, Office of Technology Assessment, Biological Effects of Power Frequency Electric & Magnetic Fields — Background Paper, OTA-BP-E-63 (Washington, DC: U.S. Government Printing Office, May 1989): "... there is now a very large volume of scientific findings based on experiments at the cellular level and from studies with animals and people which clearly establish that low frequency magnetic fields can interact with, and produce changes in, biological systems. While most of this work is of very high quality, the results are complex. Current scientific understanding does not yet allow us to interpret the evidence in a single coherent framework. Even more frustrating, it does not yet allow us to draw definite conclusions about questions of possible risk or to offer clear science-based advice on strategies to minimize or avoid potential risks."

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.
2. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around the body.
4. Keep welding power source and cables as far away from body as practical.
5. Connect work clamp to workpiece as close to the weld as possible.

About Pacemakers:

The above procedures are among those also normally recommended for pacemaker wearers. Consult your doctor for complete information.

PRINCIPAL SAFETY STANDARDS

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126.

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126.

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices for Occupation and Educational Eye and Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting and Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

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PRECAUTIONS DE SECURITE EN SOUDAGE A L'ARC

MISE EN GARDE

LE SOUDAGE A L'ARC EST DANGEREUX

PROTEGEZ-VOUS, AINSI QUE LES AUTRES, CONTRE LES BLESSURES GRAVES POSSIBLES OU LA MORT. NE LAISSEZ PAS LES ENFANTS S'APPROCHER, NI LES PORTEURS DE STIMULATEUR CARDIAQUE (A MOINS QU'ILS N'AIENT CONSULTE UN MEDECIN). CONSERVEZ CES INSTRUCTIONS. LISEZ LE MANUEL D'OPERATION OU LES INSTRUCTIONS AVANT D'INSTALLER, UTILISER OU ENTRETENIR CET EQUIPEMENT.

Les produits et procédés de soudage peuvent sauser des blessures graves ou la mort, de même que des dommages au reste du matériel et à la propriété, si l'utilisateur n'adhère pas strictement à toutes les règles de sécurité et ne prend pas les précautions nécessaires.

En soudage et coupage, des pratiques sécuritaires se sont développées suite à l'expérience passée. Ces pratiques doivent être apprises par étude ou entraînement avant d'utiliser l'equipement. Toute personne n'ayant pas suivi un entraînement intensif en soudage et coupage ne devrait pas tenter de souder. Certaines pratiques concernent les équipements raccordés aux lignes d'alimentation alors que d'autres s'adressent aux groupes électrogènes.

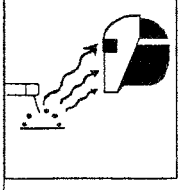
La norme Z49.1 de l'American National Standard, intitulée "SAFETY IN WELDING AND CUTTING" présente les pratiques sécuritaires à suivre. Ce document ainsi que d'autres guides que vous devriez connaître avant d'utiliser cet équipement sont présentés à la fin de ces instructions de sécurité.

SEULES DES PERSONNES QUALIFIEES DOIVENT FAIRE DES TRAVAUX D'INSTALLATION, DE REPARATION, D'ENTRETIEN ET D'ESSAI.

L'ELECTROCUTION PEUT ETRE MORTELLE.

Une décharge électrique peut tuer ou brûler gravement. L'électrode et le circuit de soudage sont sous tension dès la mise en circuit. Le circuit d'alimentation et les circuits internes de l'équipement sont aussi sous tension dès la mise en marche. En soudage automatique ou semi-automatique avec fil, ce dernier, le rouleau ou la bobine de fil, le logement des galets d'entrainement et toutes les pièces métalliques en contact avec le fil de soudage sont sous tension. Un équipement inadéquatement installé ou inadéquatement mis à la terre est dangereux.

1. Ne touchez pas à des pièces sous tension.
2. Portez des gants et des vêtements isolants, secs et non troués.
3. Isolez-vous de la pièce à souder et de la mise à la terre au moyen de tapis isolants ou autres.
4. Déconnectez la prise d'alimentation de l'équipement ou arrêtez le moteur avant de l'installer ou d'en faire l'entretien. Bloquez le commutateur en circuit ouvert ou enlevez les fusibles de l'alimentation afin d'éviter une mise en marche accidentelle.
5. Veuillez à installer cet équipement et à le mettre à la terre selon le manuel d'utilisation et les codes nationaux, provinciaux et locaux applicables.
6. Arrêtez tout équipement après usage. Coupez l'alimentation de l'équipement s'il est hors d'usage ou inutilisé.
7. N'utilisez que des porte-électrodes bien isolés. Ne jamais plonger les porte-électrodes dans l'eau pour les refroidir. Ne jamais les laisser traîner par terre ou sur les pièces à souder. Ne touchez pas aux porte-électrodes raccordés à deux sources de courant en même temps. Ne jamais toucher quelqu'un d'autre avec l'électrode ou le porte-électrode.
8. N'utilisez pas de câbles électriques usés, endommagés, mal épissés ou de section trop petite.
9. N'enroulez pas de câbles électriques autour de votre corps.
10. N'utilisez qu'une bonne prise de masse pour la mise à la terre de la pièce à souder.
11. Ne touchez pas à l'électrode lorsqu'en contact avec le circuit de soudage (terre).
12. N'utilisez que des équipements en bon état. Réparez ou remplacez aussitôt les pièces endommagées.
13. Dans des espaces confinés ou mouillés, n'utilisez pas de source de courant alternatif, à moins qu'il soit muni d'un réducteur de tension. Utilisez plutôt une source de courant continu.
14. Portez un harnais de sécurité si vous travaillez en hauteur.
15. Fermez solidement tous les panneaux et les capots.



LE RAYONNEMENT DE L'ARC PEUT BRÛLER LES YEUX ET LA PEAU; LE BRUIT PEUT ENDOMMAGER L'OUIE.

L'arc de soudage produit une chaleur et des rayons ultraviolets intenses, susceptibles de brûler les yeux et la peau. Le bruit causé par certains procédés peut endommager l'ouïe.

1. Portez une casque de soudeur avec filtre oculaire de nuance appropriée (consultez la norme ANSI Z49 indiquée ci-après) pour vous protéger le visage et les yeux lorsque vous soudez ou que vous observez l'exécution d'une soudure.
2. Portez des lunettes de sécurité approuvées. Des écrans latéraux sont recommandés.
3. Entourez l'aire de soudage de rideaux ou de cloisons pour protéger les autres des coups d'arc ou de l'éblouissement; avertissez les observateurs de ne pas regarder l'arc.
4. Portez des vêtements en matériaux ignifuges et durables (laine et cuir) et des chaussures de sécurité.
5. Portez un casque antibruit ou des bouchons d'oreille approuvés lorsque le niveau de bruit est élevé.

SELECTION DES NUANCES DE FILTRES OCULAIRES POUR LA PROTECTION DES YEUX EN COUPAGE ET SOUDAGE
(selon AWS A 8.2-73)

Opération de Coupage ou soudage	Dimension d'électrode ou Epaisseur de métal ou Intensité de courant	Nuance de de filtre oculaire
Brasage tendre au chalumeau	toutes conditions	2
Brasage fort au chalumeau	toutes conditions	3 ou 4
Oxycoupage		
mince	moins de 1 po. (25 mm)	2 ou 3
moyen	de 1 à 6 po. (25 à 150 mm)	4 ou 5
épais	plus de 6 po. (150 mm)	5 ou 6
Soudage aux gaz		
mince	moins de 1/8 po. (3 mm)	4 ou 5
moyen	de 1/8 à 1/2 po. (3 à 12 mm)	5 ou 6
épais	plus de 1/2 po. (12 mm)	6 ou 8
Soudage à l'arc avec	moins de 5/32 po. (4 mm)	10
electrode enrobées (SMAW)	de 5/32 à 1/4 po. (4 à 6.4 mm)	12
	plus de 1/4 po. (6.4 mm)	14
Soudage à l'arc sous gaz avec fil plein (GMAW)		
métaux non-ferreux	toutes conditions	11
métaux ferreux	toutes conditions	12
Soudage à l'arc sous gaz avec électrode de tungstène (GTAW)	toutes conditions	12
Soudage à l'hydrogène atomique (AHW)	toutes conditions	12
Soudage à l'arc avec électrode de carbone (CAW)	toutes conditions	12
Soudage à l'arc Plasma (PAW)	toutes dimensions	12
Gougeage Air-Arc avec électrode de carbone		
mince		12
épais		14
Coupage à l'arc Plasma (PAC)		
mince	moins de 300 ampères	9
moyen	de 300 à 400 ampères	12
épais	plus de 400 ampères	14

LES VAPEURS ET LES FUMEES SONT DANGEREUSES POUR LA SANTE.

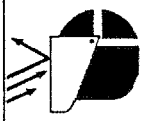
Le soudage dégage des vapeurs et des fumées dangereuses à respirer.

1. Eloignez la tête des fumées pour éviter de les respirer.
2. A l'intérieur, assurez-vous que l'aire de soudage est bien ventilée ou que les fumées et les vapeurs sont aspirées à l'arc.
3. Si la ventilation est inadequate, portez un respirateur à adduction d'air approuvé.
4. Lisez les fiches signalétiques et les consignes du fabricant relatives aux métaux, aux produits consummables, aux revêtements et aux produits nettoyants.
5. Ne travaillez dans un espace confiné que s'il est bien ventilé; sinon, portez un respirateur à adduction d'air. Les gaz protecteurs de soudage peuvent déplacer l'oxygène de l'air et ainsi causer des malaises ou la mort. Assurez-vous que l'air est propre à la respiration.
6. Ne soudez pas à proximité d'opérations de dégraissage, de nettoyage ou de pulvérisation. La chaleur et les rayons de l'arc peuvent réagir avec des vapeurs et former des gaz hautement toxiques et irritants.
7. Ne soudez des tôles galvanisées ou plaquées au plomb ou au cadmium que si les zones à souder ont été grattées à fond, que si l'espace est bien ventilé; si nécessaire portez un respirateur à adduction d'air. Car ces revêtements et tout métal qui contient ces éléments peuvent dégager des fumées toxiques au moment du soudage.

LE SOUDAGE PEUT CAUSER UN INCENDIE OU UNE EXPLOSION

L'arc produit des étincellies et des projections. Les particules volantes, le métal chaud, les projections de soudure et l'équipement surchauffé peuvent causer un incendie et des brûlures. Le contact accidentel de l'électrode ou du fil-électrode avec un objet métallique peut provoquer des étincelles, un échauffement ou un incendie.

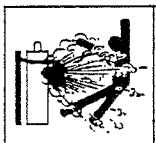
1. Protégez-vous, ainsi que les autres, contre les étincelles et du métal chaud.
2. Ne soudez pas dans un endroit où des particules volantes ou des projections peuvent atteindre des matériaux inflammables.
3. Enlevez toutes matières inflammables dans un rayon de 10, 7 mètres autour de l'arc, ou couvrez-les soigneusement avec des bâches approuvées.
4. Méfiez-vous des projections brulantes de soudage susceptibles de pénétrer dans des aires adjacentes par de petites ouvertures ou fissures.
5. Méfiez-vous des incendies et gardez un extincteur à portée de la main.
6. N'oubliez pas qu'une soudure réalisée sur un plafond, un plancher, une cloison ou une paroi peut enflammer l'autre côté.
7. Ne soudez pas un récipient fermé, tel un réservoir ou un baril.
8. Connectez le câble de soudage le plus près possible de la zone de soudage pour empêcher le courant de suivre un long parcours inconnu, et prévenir ainsi les risques d'électrocution et d'incendie.
9. Ne dégelez pas les tuyaux avec un source de courant.
10. Otez l'électrode du porte-électrode ou coupez le fil au tube-contact lorsqu'inutilisé après le soudage.
11. Portez des vêtements protecteurs non huileux, tels des gants en cuir, une chemise épaisse, un pantalon revers, des bottines de sécurité et un casque.



LES ETINCELLES ET LES PROJECTIONS BRULANTES PEUVENT CAUSER DES BLESSURES.

Le piquage et le meulage produisent des particules métalliques volantes. En refroidissant, la soudure peut projeter du éclats de laitier.

1. Portez un écran facial ou des lunettes protectrices approuvées. Des écrans latéraux sont recommandés.
2. Portez des vêtements appropriés pour protéger la peau.



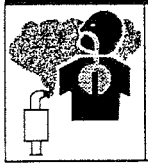
LES BOUTEILLES ENDOMMAGEES PEUVENT EXPLOSER

Les bouteilles contiennent des gaz protecteurs sous haute pression. Des bouteilles endommagées peuvent exploser. Comme les bouteilles font normalement partie du procédé de soudage, traitez-les avec soin.

1. Protégez les bouteilles de gaz comprimé contre les sources de chaleur intense, les chocs et les arcs de soudage.
2. Enchainez verticalement les bouteilles à un support ou à un cadre fixe pour les empêcher de tomber ou d'être renversées.
3. Eloignez les bouteilles de tout circuit électrique ou de tout soudage.
4. Empêchez tout contact entre une bouteille et une électrode de soudage.
5. N'utilisez que des bouteilles de gaz protecteur, des détendeurs, des boyauxs et des raccords conçus pour chaque application spécifique; ces équipements et les pièces connexes doivent être maintenus en bon état.
6. Ne placez pas le visage face à l'ouverture du robinet de la bouteille lors de son ouverture.
7. Laissez en place le chapeau de bouteille sauf si en utilisation ou lorsque raccordé pour utilisation.
8. Lisez et respectez les consignes relatives aux bouteilles de gaz comprimé et aux équipements connexes, ainsi que la publication P-1 de la CGA, identifiée dans la liste de documents ci-dessous.

MISE EN GARDE

LES MOTEURS PEUVENT ETRE DANGEREUX



LES GAZ D'ECHAPPEMENT DES MOTEURS PEUVENT ETRE MORTELS.

Les moteurs produisent des gaz d'échappement nocifs.

1. Utilisez l'équipement à l'extérieur dans des aires ouvertes et bien ventilées.
2. Si vous utilisez ces équipements dans un endroit confiné, les fumées d'échappement doivent être envoyées à l'extérieur, loin des prises d'air du bâtiment.

LE CARBURANT PEUR CAUSER UN INCENDIE OU UNE EXPLOSION.

Le carburant est hautement inflammable.

1. Arrêtez le moteur avant de vérifier le niveau de carburant ou de faire le plein.
2. Ne faites pas le plein en fumant ou proche d'une source d'étincelles ou d'une flamme nue.
3. Si c'est possible, laissez le moteur refroidir avant de faire le plein de carburant ou d'en vérifier le niveau au début du soudage.
4. Ne faites pas le plein de carburant à ras bord: prévoyez de l'espace pour son expansion.
5. Faites attention de ne pas renverser de carburant. Nettoyez tout carburant renversé avant de faire démarrer le moteur.

DES PIECES EN MOUVEMENT PEUVENT CAUSER DES BLESSURES.

Des pièces en mouvement, tels des ventilateurs, des rotors et des courroies peuvent couper doigts et mains, ou accrocher des vêtements amples.

1. Assurez-vous que les portes, les panneaux, les capots et les protecteurs soient bien fermés.
2. Avant d'installer ou de connecter un système, arrêtez le moteur.
3. Seules des personnes qualifiées doivent démonter des protecteurs ou des capots pour faire l'entretien ou le dépannage nécessaire.
4. Pour empêcher un démarrage accidentel pendant l'entretien, débranchez le câble d'accumulateur à la borne négative.
5. N'approchez pas les mains ou les cheveux de pièces en mouvement; elles peuvent aussi accrocher des vêtements amples et des outils.
6. Réinstallez les capots ou les protecteurs et fermez les portes après des travaux d'entretien et avant de faire démarrer le moteur.

DES ETINCELLES PEUVENT FAIRE EXPLOSER UN ACCUMULATEUR; L'ELECTROLYTE D'UN ACCUMULATEUR PEUT BRULER LA PEAU ET LES YEUX.

Les accumulateurs contiennent de l'électrolyte acide et dégagent des vapeurs explosives.

1. Portez toujours un écran facial en travaillant sur un accumulateur.
2. Arrêtez le moteur avant de connecter ou de déconnecter des câbles d'accumulateur.
3. N'utilisez que des outils anti-étincelles pour travailler sur un accumulateur.
4. N'utilisez pas une source de courant de soudage pour charger un accumulateur ou survolter momentanément un véhicule.
5. Utilisez la polarité correcte (+ et –) de l'accumulateur.

LA VAPEUR ET LE LIQUIDE DE REFROIDISSEMENT BRULANT SOUS PRESSION PEUVENT BRULER LA PEAU ET LES YEUX.

Le liquide de refroidissement d'un radiateur peut être brûlant et sous pression.

1. N'ôtez pas le bouchon de radiateur tant que le moteur n'est pas refroidi.
2. Mettez des gants et posez un torchon sur le bouchon pour l'ôter.
3. Laissez la pression s'échapper avant d'ôter complètement le bouchon.

PRINCIPALES NORMES DE SECURITE

Safety in Welding and Cutting, norme ANSI Z49.1, American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33128.

Safety and Health Standards, OSHA 29 CFR 1910, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, norme AWS F4.1, American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33128.

National Electrical Code, norme 70 NFPA, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, document P-1, Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, norme CSA W117.2 Association canadienne de normalisation, Standards Sales, 276 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices for Occupation and Educational Eye and Face Protection, norme ANSI Z87.1, American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting and Welding Processes, norme 51B NFPA, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

DESCRIPTION OF EQUIPMENT

This unit is a constant voltage, transformer rectifier type DC power source that provides volt-ampere characteristic curves that are basically flat.

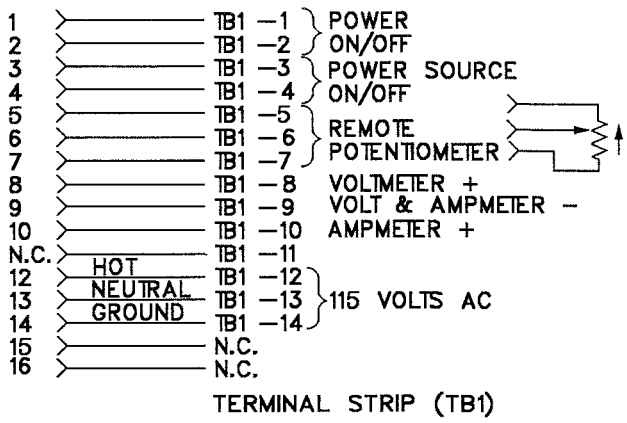
Controls and Outlets

1. **Circuit Breaker (10 amps)** — Protects the 115-V AC control circuitry.

2. **Negative Terminal (–)** — Serves as a connection point for the lead to the spray gun.

3. **Positive Terminal (+)** — Serves as a connection point for the lead to the spray gun.

The unit is equipped with a terminal strip for connection the the spray console.



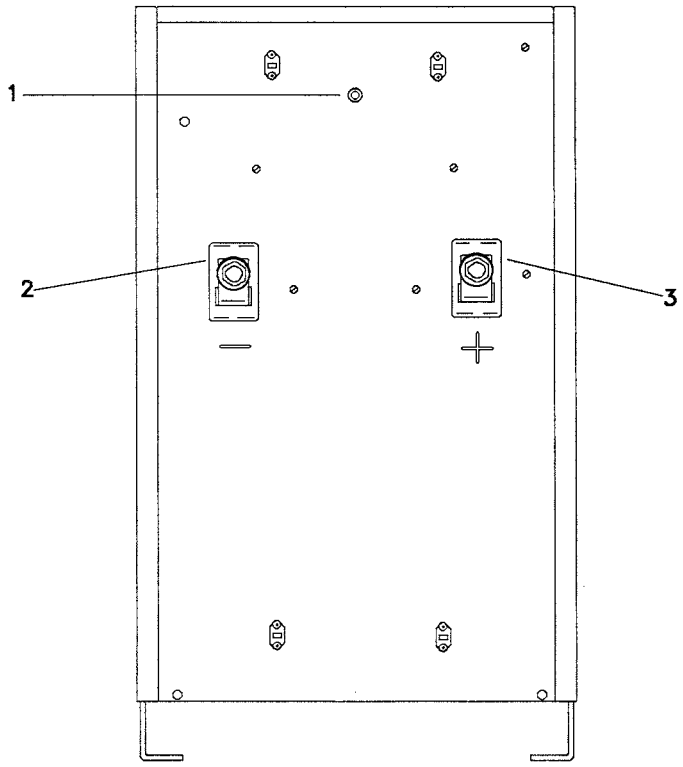
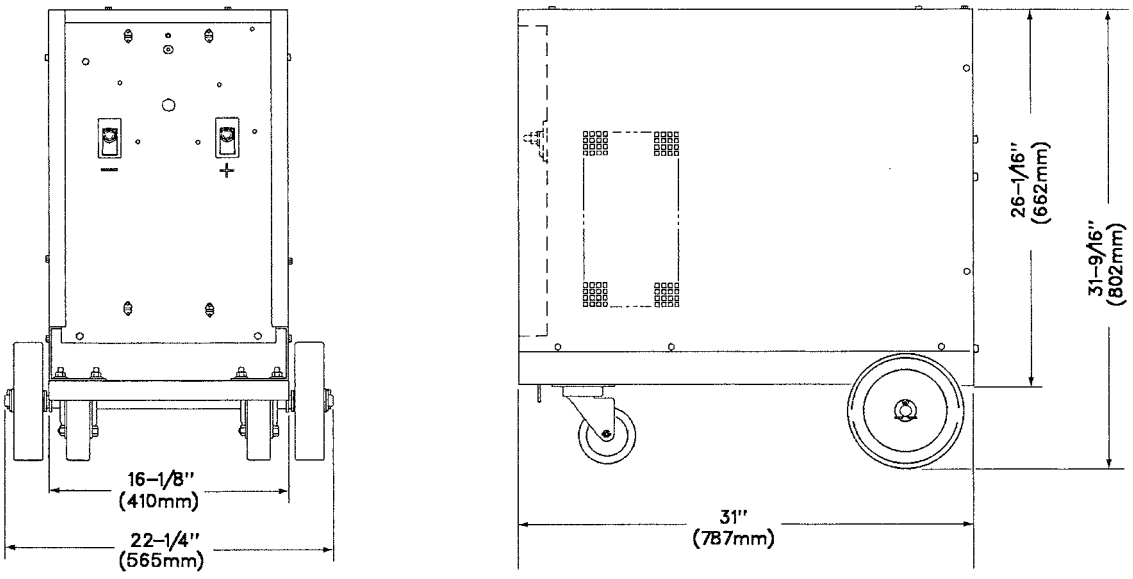


Figure 3-1 Control Panel

ITEM	TAFA 9300 100006-1
Rated Output Amperage Rated Output Voltage Rated Duty Cycle Maximum Open Circuit Voltage	350 A 34 V 100% 35 V
Rated Input Voltage Operating Input Voltage Range	200/230/400/460/575 V 200 — 180 to 220 V 230 — 207 to 253 V 400 — 360 to 440 V 460 — 415 to 506 V 575 — 517.5 to 632.5 V
Rated Input Amperage Input kW Input Frequency Input Phase	50/44/25/22/18 at 350 amp rating 15.7 kW at 350 amp rating 50/60 Hz Three Phase

Table 3-1 Machine Specifications for 100006-1



TAFA–9300 Weight 368 lbs. (167 kg)

Figure 3-2 Dimensions and Weight Information

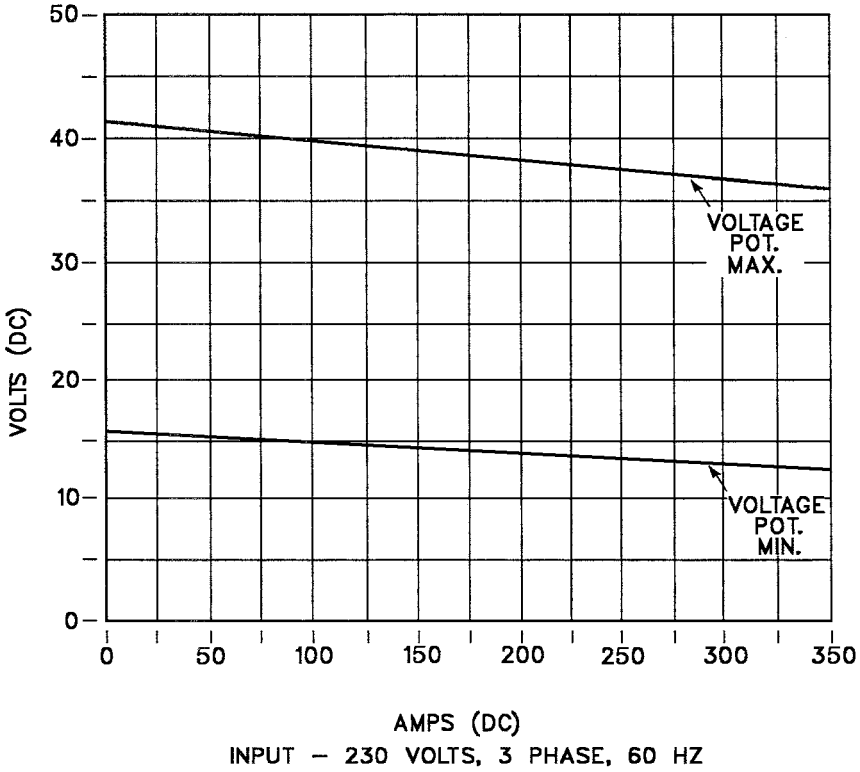
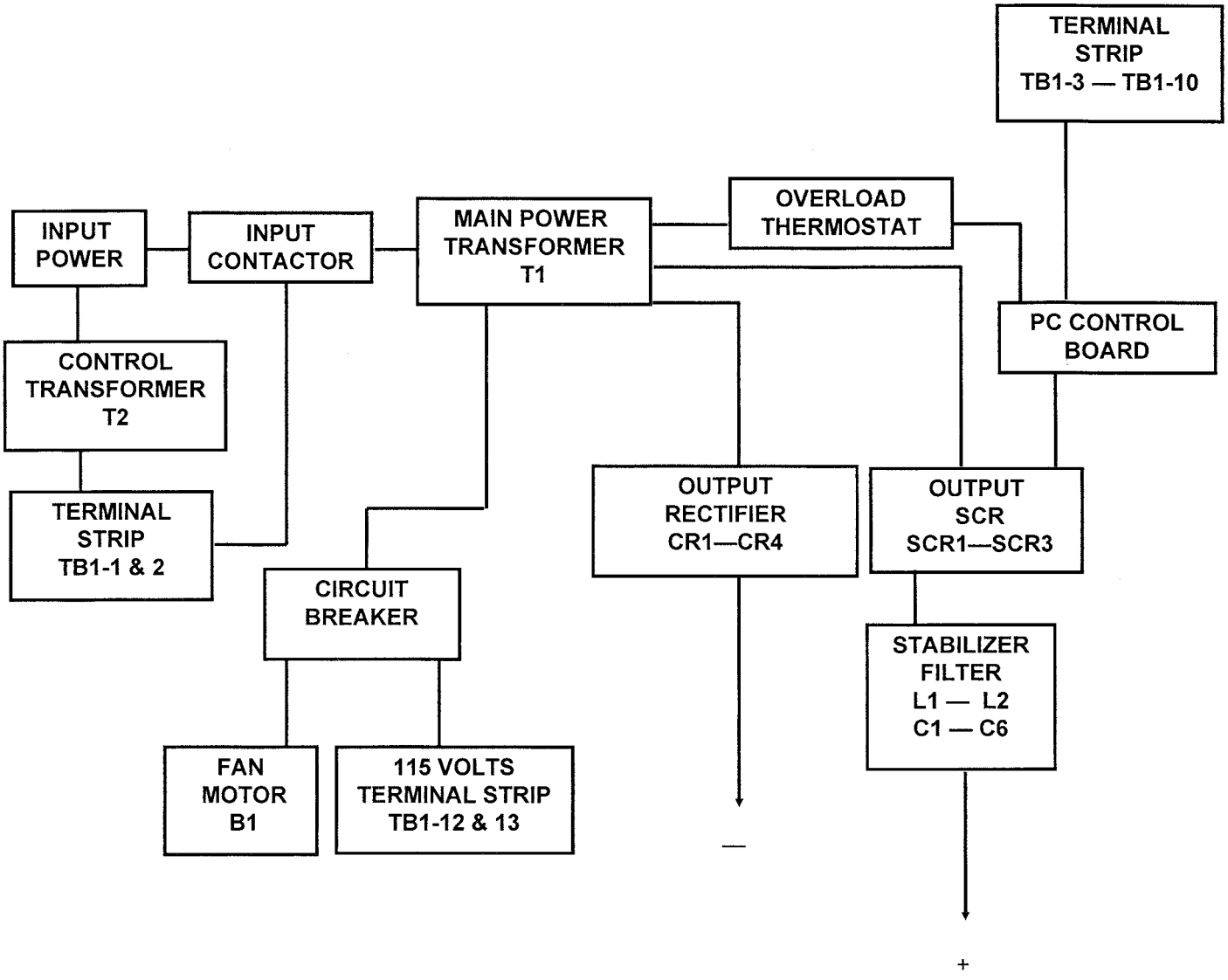


Figure 3-3 Volt Amp Curve



Functional Block Diagram for TAFA 9300

INSTALLATION

Location

For best operating characteristics and longest unit life, take care in selecting an installation site. Avoid locations exposed to high humidity, dust, high ambient temperature or corrosive fumes. Moisture can condense on electrical components, causing corrosion or shorting of circuits. Dirt on components helps retain this moisture.

Adequate air circulation is needed at all times in order to assure proper operation. Provide a minimum of 12 inches (305 mm) of free air space at both front and rear of the unit. Make sure that the ventilator openings are not obstructed.

Grounding

The frame of this power source should be grounded for personnel safety. Where grounding is mandatory under state or local codes, it is the responsibility of the user to comply with all applicable rules and regulations. Where no state or local codes exist, it is recommended that the National Electrical Code be followed. Refer to Table 4-1 for wire sizes.

The requirements and recommendations for grounding apply to rubber tire mounted equipment. In addition to the usual function of protecting personnel against the hazard of electrical shock due to fault in the equipment, grounding serves to discharge the static electrical charges which tend to build up on the surfaces of tire mounted equipment. These static charges sometimes cause painful shock to personnel, and in some instances, lead to the erroneous conclusion that an electrical fault exists in the equipment.

Use an input-power cable assembly which includes a grounding conductor to connect this equipment to the input power supply. When included in the cable assembly, the grounding conductor will be green or green with a yellow stripe, or bare. Connect the grounding conductor to the

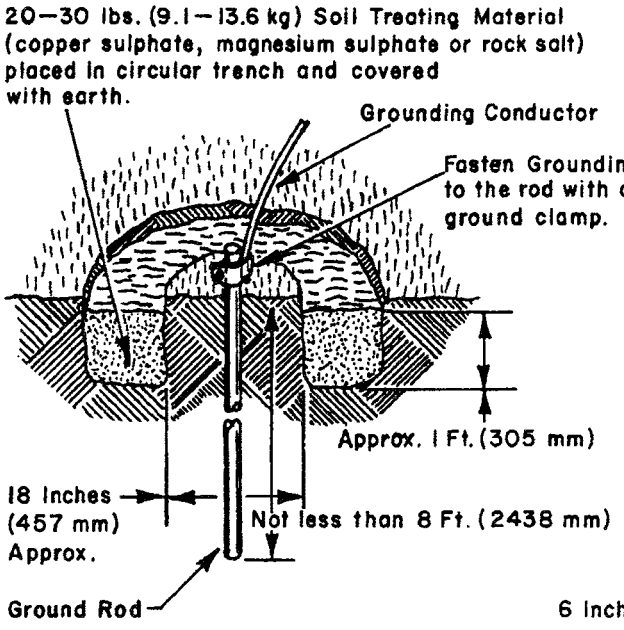


Figure 4-1 Outside Ground

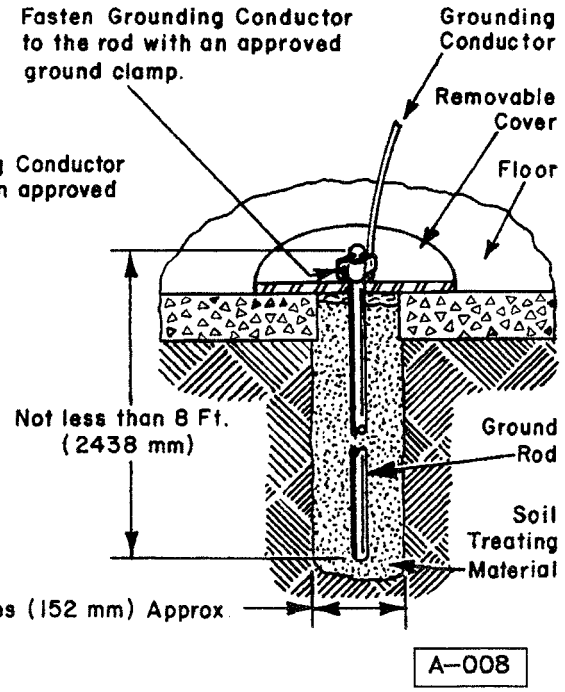


Figure 4-2 Inside Ground

equipment grounding terminal, if provided, and if not, to the equipment frame, taking care to see that good electrical contact is made between conductor and frame. Connect the other end of the grounding conductor to the system ground.

If, for any reason, an input cable which does not include a grounding conductor is used, the equipment may be grounded with a separate conductor if permitted under applicable code, or by special permission of the jurisdictional body responsible for enforcement of the code. Minimum size and color coding requirements must be in accordance with any applicable state or local code, or the National Electrical Code.

If metallic armored cable or conduit is used, the metal sheathing or conduit must be effectively grounded as required by state or local code, or the National Electrical Code.

If a system ground is not available, the power source must be connected to a driven ground rod (see Figures 4-1 and 4-2) or to a water pipe that enters the ground not more than 10 feet (3,048 mm) from the machine. Refer to the Wire and Fuse Size Chart, Table 4-1, for selection of the proper grounding conductor.

NOTE: The grounding conductor must be as short as possible in order to produce the most efficient installation.

Treating An Outside Ground — The soil treating materials are placed in a circular trench around the rod, but not in direct contact. The crystals are gradually dissolved by surface waters and the solution is carried into the most useful area of earth surrounding the electrode (rod). Flood the trench several times when making original installation. See Figure 4-1.

Treating An Inside Ground — Reduce the diameter of the hole to 6 inches (152 mm), pour soil treating material in and around the rod. Add enough water to dissolve 8 pounds (4.0 kg) of soil treating material. Flood the hole every 6 months and replace the soil treating material when it is all dissolved. See Figure 4-2.

Connection To Line Voltage

Refer to Table 4-1 for wire sizes required.

CAUTION: Conductor size shall be selected to meet NEC, CE Code, and local codes and shall be modified as required for line voltage drop and ambient temperature.

This power source operates on a three-phase, AC input. See nameplate of the machine to determine required input voltage and frequency. Make certain that the power source is connected for the power supply voltage available. The input power cables should be connected to the power supply through a fused disconnect switch (furnished by the customer). Refer to the identification nameplate to determine the rating of the machine, then consult the local power company for wire and fuse size code. If no code exists, use the size of wire fuses listed in Table 4-1.

Line Voltage	Input Wire Size (AWG)*	Ground Wire Size (AWG)*	Lag Fuse Rating
	TAFA 9300		TAFA 9300
200	8	8	60
230	8	8	60
400	12	12	30
460	12	12	30
575	12	12	30

** Input conductor sizes are based on allowable ampacities of insulated copper conductors, with not more than three conductors in a raceway or cable.*

Table 4-1 Recommended Wire and Fuse Sizes

Input Connections To Power Source

WARNING: The fused disconnect switch: Open or place in the OFF position and remove the fuses. To avoid an accident, make the electric power connections to the power source first, then to the fused disconnect switch. This will prevent an accidental application of power while the machine is being connected.

1. A line (wall) disconnect switch, with fuses or circuit breakers should be provided at the main power panel (see Figure 4-3). The primary power input must have four insulated copper conductors (three power leads and one ground wire). The wires may be heavy rubber-covered cable or may be run in a solid or flexible conduit. Do not connect the input conductors until step 3.

2. For access to input terminal board, remove the screws which secure the right side panel of the power supply. The input terminal board, Figure 4-3, is clearly marked to show the available primary voltage connections which may be used. Set the voltage links, on this board, to match your actual incoming voltage. As shipped from the factory, the input terminal board voltage links are set up for the highest line voltage.

3. Thread the input conductor cables from the wall disconnect switch through the hole in the rear panel (see Figure 4-3). Connect the conductors to terminals on the input contactor. Connect the ground wire to the grounding stud provided on the base near the contactor.

WARNING: It is of the utmost importance that the chassis be connected to an approved electrical ground to prevent accidental shocking. Take care not to connect the ground wire to any of the primary leads.

4. Recheck all connections to make sure that they are tight, well insulated, and that the proper connection has been made.

Place links in proper position based on input voltage value.

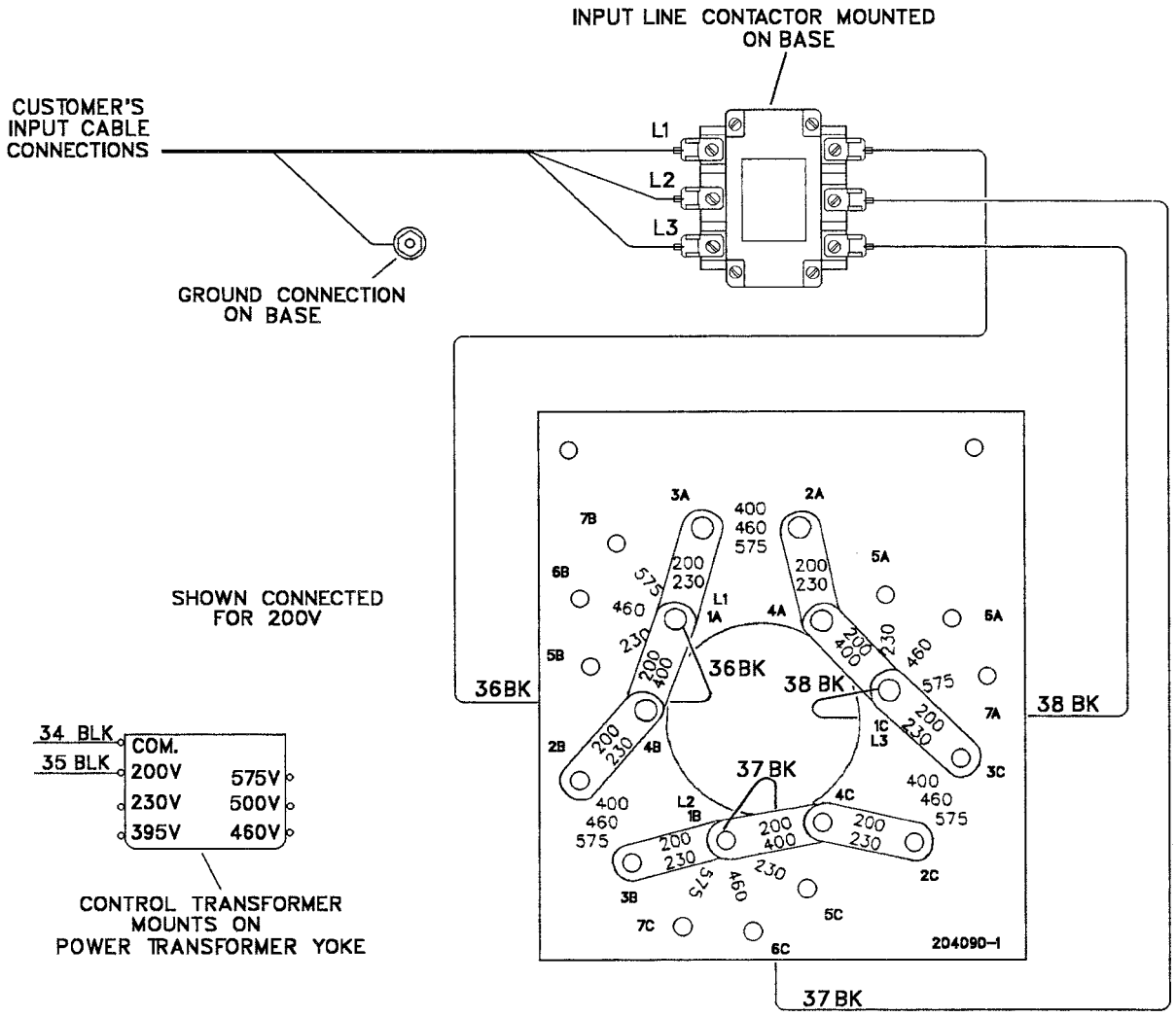


Figure 4-3 Input Voltage Connection & Changeover

MAINTENANCE

Exchange Service Policy

See Solid State Electrical Control Module Exchange Service Policy included in this manual.

Replacing SCRs

The provisions of the Exchange Module (included in this manual) are extended to cover the complete SCR assembly. Replacing an SCR is a critical task but it can be accomplished in the field by following the instructions in the Detailed Troubleshooting Instructions section located in the Troubleshooting chapter of this manual.

Lubrication

The fan motor incorporates sleeve bearings. You can expect the life of this motor to exceed 50,000 hours without relubrication. Periodically cleaning the motor and lubricating the bearings will extend the life of the motor. The following table will furnish a recommended guide as to the frequency of this lubrication if desired.

TYPE OF DUTY	LUBRICATION INTERVAL
Light (up to 6 hrs./day)	Every 12 mo.
Moderate (7 to 15 hrs./day)	Every 6 mo.
Heavy (16 to 24 hrs./day)	Every 3 mo.

NOTE: Apply 1-12 drops of 20W non-detergent oil at each end of bearing.

Inspection and Cleaning

For uninterrupted, satisfactory service from this power source, it is necessary to keep the machine clean, dry, and well ventilated. At least every three months, or more often as necessary, wipe and blow out all dirt from the machine's internal components, with air pressure of not over 25 psi (172 kPa). Be sure to wipe the fan blades clean.

Check and tighten all electrical connections as necessary to eliminate unnecessary losses and to avoid subsequent trouble from overheating or open circuits. Check for broken wiring or damaged insulation on wiring.

WARNING: Disconnect line voltage from the unit before attempting any servicing inside unit. Turn off fused disconnect switch that supplies power to power source, and remove its fuses.

CAUTION: The flow of air through the power source is carefully directed by baffles. Never operate the power source with any of the side or top panels removed or open, as serious damage to the rectifiers might result.

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TROUBLESHOOTING

Detailed Troubleshooting Instructions

Mounting Procedure for SCRs

1. Thoroughly clean heat sink surface to eliminate any dirt or contamination.

2. Apply a thin coat of Alcoa #2 compound to cleaned surface. Alcoa #2 is available from Prestolite Power Corporation, part number 903870.

3. Positively locate the SCR in place in the heat sink. A small spring pin in the extruded heat sink will locate the SCR.

4. Place the clamp in position with the bolts through the holes in the heat sink, and proceed in following manner.

5. Tighten the nuts evenly until finger tight.

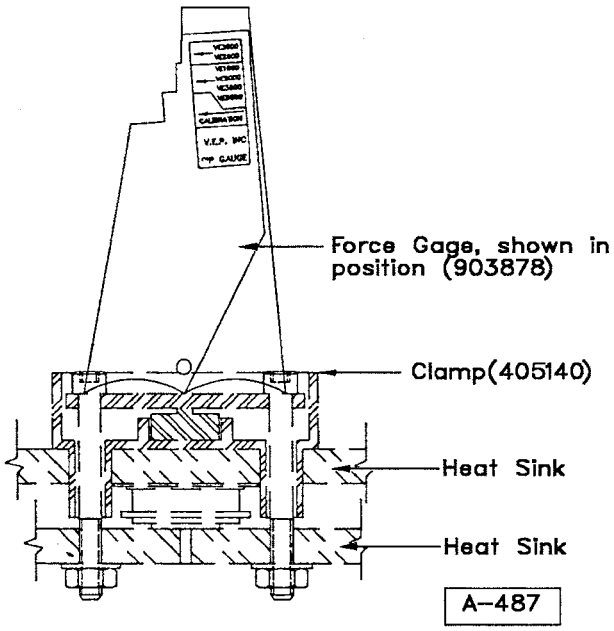


Figure 6-1

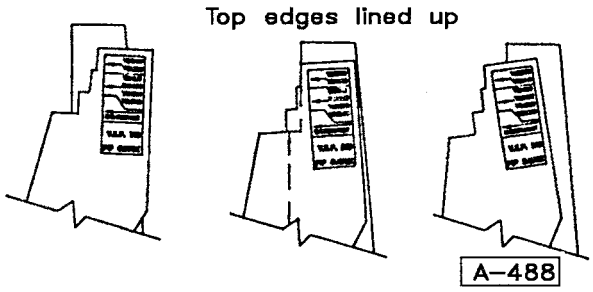
6. Tighten each bolt in 1/4 turn increments using correct size hex key.

7. Place the Force Indicator Gauge (903878) firmly against the springs as shown. Be sure both ends and the center are in firm contact with the springs. The gauge notch location will indicate the spring deflection or force. Correct mounting force is indicated as shown below.

8. Spring deflection over 2-1/4 inches of spring is .037" ± .002" for all clamps.

9. All clamps to be set at 4° mark. This corresponds to the VE3000-VE2500 section on the gauge label.

Examples:

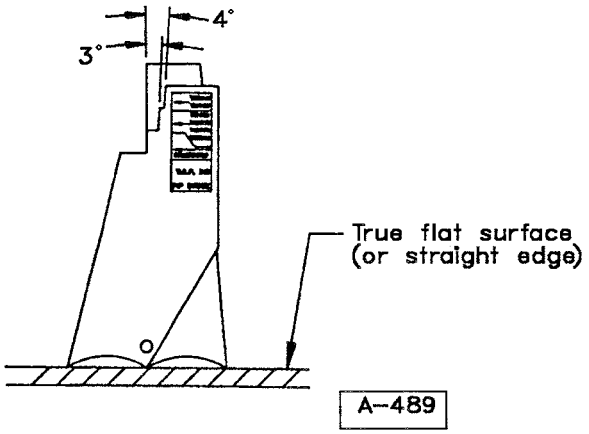


Less than rated force. Tighten nuts alternately 1/4 turn at a time until points coincide.	Correct rated force.	Excessive force. Loosen both nuts and start over. *NEVER* adjust force by backing off the nuts. Friction will produce a false reading. Always start from Step 1.

Figure 6-2

To Calibrate Force Gauge:

If the gauge is suspected of being out of calibration due to wear or damage, check it on a flat surface as shown below.



If the calibration edges do not line up, calibrate the gauge by filing the bottom contact points.

Figure 6-3

Testing Procedures (Printed Circuit Board)
See Figure 6-4.

Test point 3 (3) is the common ground and the negative probe should be connected to this point unless otherwise specified. All test readings are based on the line voltage supply being within specifications, that is, not exceeding ± 10% of nominal line voltage. For example, on a 460-volt, 3-phase line, the line voltage must not exceed 506 volts, or be less than 414 volts.

Adjustments (Preset at factory) — The following describes the factory adjustments. It is not intended that the adjustments be made in the field. Refer to Figure 6-4 for reference to P.C. Board (203909-1).

1. Balance Adjustment for Conduction Angle of SCRs — The potentiometers R-12, R-13 are used to adjust the balance.

2. Arc Establish — J-2 plug pins 1 and 6 — Pin 6 is common ground. Pin 1 will have + 15 volts, when the output amps is 50 amps (R68 adjusts this) or more, and pin 1 will drop to "0" volts when with 20 amps or less.

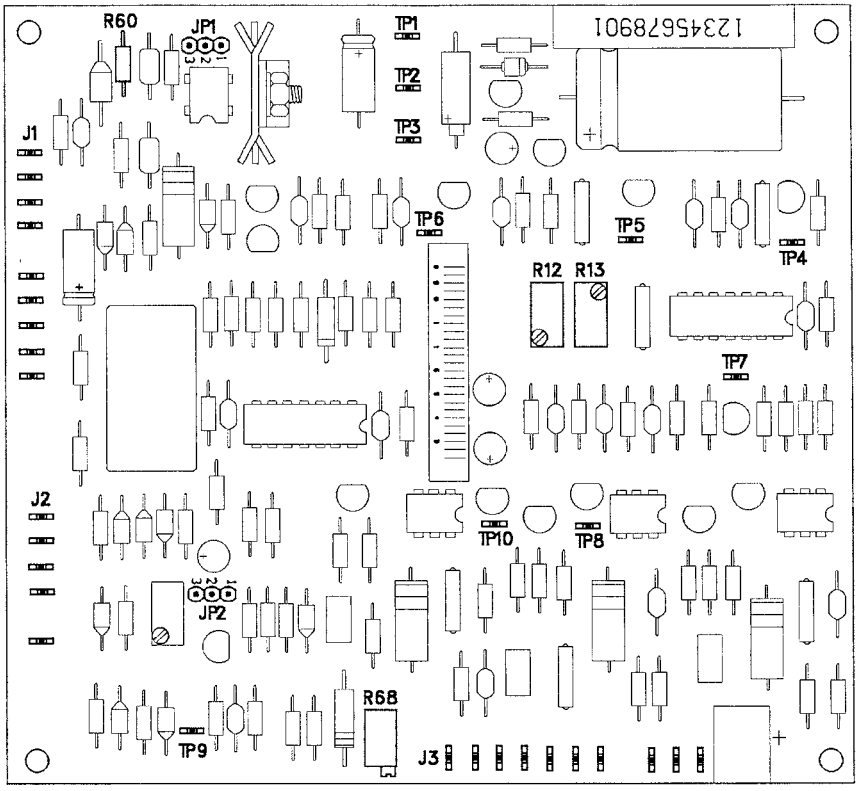


Figure 6-4

TEST	TEST POINTS	ADJUSTING POT	VOLTAGE	REMARKS
1	TP2 (+) TP3		30 ± 10% DC	Checks positive supply voltage Checks R60 fuse to power supply
2	TP1 (+) TP3		15 V ± .75 V	Checks voltage regulator
3	TP4 (+) TP3 TP5 (+) TP3 TP6 (+) TP3	 R12 R13	Same as TP4	Adjusts phase balance of all three phases
4	TP8 (+) TP3		400 Amps = 5 V ± 10%	Checks shunt amplifier

Table 6-1

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PARTS LIST

Equipment Identification

All identification numbers as described in the Introduction chapter must be furnished when ordering parts or making inquiries. This information is usually found on the nameplate attached to the equipment. Be sure to include any dash numbers following the Specification or Assembly numbers.

How To Use This Parts List

The Parts List is a combination of an illustration (Figure Number) and a corresponding list of parts which contains a breakdown of the equipment into assemblies, subassemblies, and detail parts. All parts of the equipment are listed except for commercially available hardware, bulk items such as wire, cable, sleeving, tubing, etc., and permanently attached items which are soldered, riveted, or welded to another part. The part descriptions may be indented to show part relationships.

To determine the part number, description, quantity, or application of an item, simply locate the item in question from the illustration and refer to that item number in the corresponding Parts List.

An "Application Code" is used to distinguish parts that are applicable only to certain Specifications and/or Assemblies. This code is found in the rightmost column of the Parts List. If an item in the Parts List applies to all Specifications or Assemblies, the word "ALL" will be in the Application Code column. Refer to the following list to determine the appropriate Application Codes for the Specifications or Assemblies covered by this manual. If only the assembly or specification number is listed, the use of an Application Code does not apply to this manual.

How To Select Recommended Spares

The first two columns of the Parts List are used to show the recommended quantity of parts which are typically required for spares or replacement purposes. The quantities under Class 1 are for parts that are consumed or that may need replacement in two years or less depending on operating hours. Class 2 quantities are for parts that may need replacement under unusual service conditions or additional operating hours. These are suggested quantities based on expected usage or the minimum package quantity. Class 1 spares are repeated under Class 2 but the quantities may be larger to allow for additional operating hours. Contact your equipment dealer for assistance in establishing the spare parts program best suited for your needs.

SPECIFICATION NUMBER

100006-001

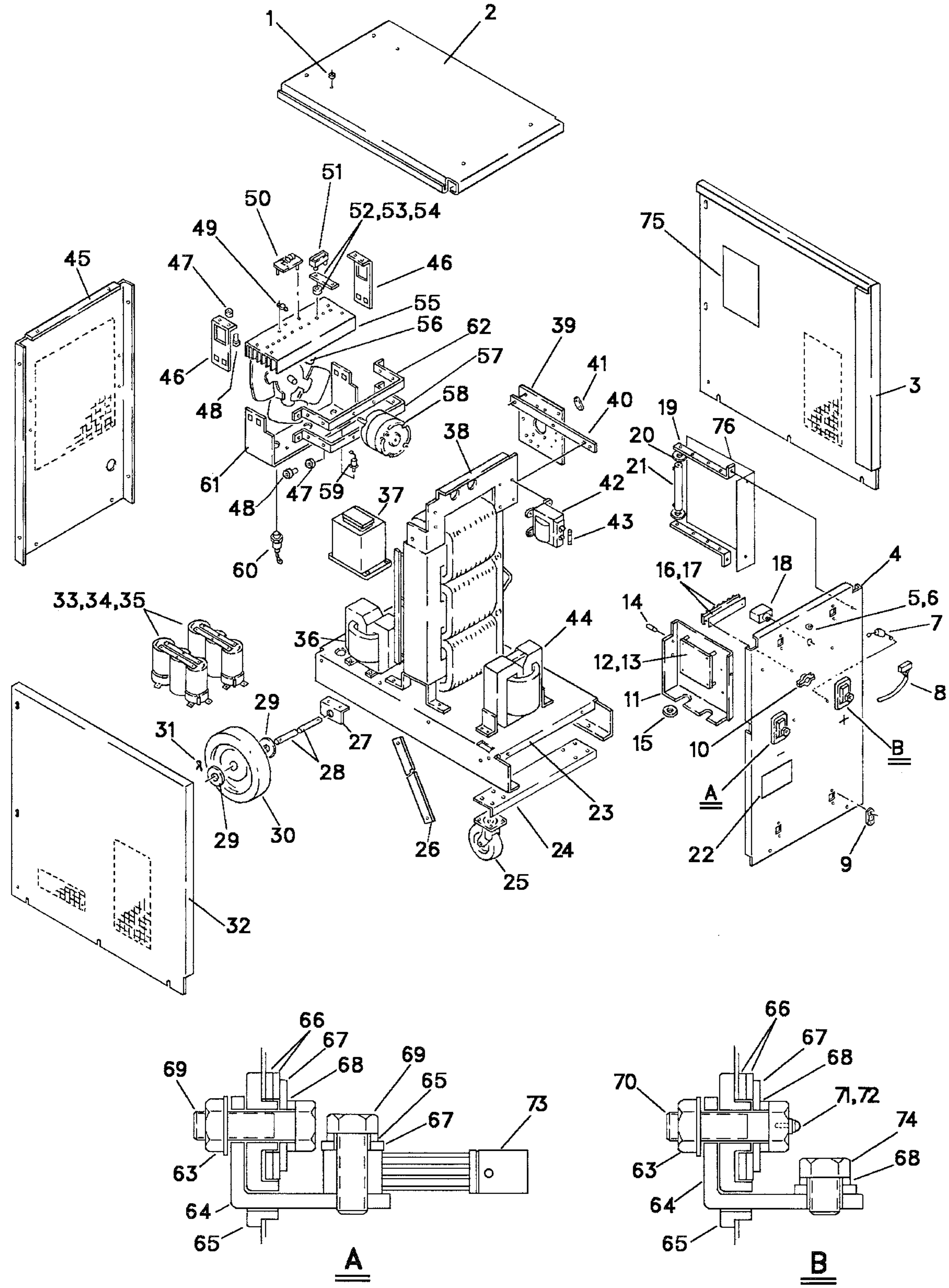
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Figure 7-1

Parts List for Figure 7-1

Quantity Recomm. Spares Class 1	Class 2	Item No.	Part Number	Description	Qty per Assy
			100006-1	Power Source - Assembly	1
		1	204078	. Spacer	2
		2	830132	. Panel - Top	1
		3	830133	. Panel - Side, Right	1
		4	830131-1	. Panel - Front, Control	1
		5	405072-1	. Diode - Light Emitting	1
		6	405734	. Clip - Retaining	1
		7	368705-8	. Capacitor - W/Leads and Term.	2
		8	204087	. Cable - Assembly	1
		9	204079	. Catch - Spring	4
		10	W-10080-2	. Connector - Straight	1
		11	203756-1	. Bracket - Mounting	1
		12	203909B-2	. Board - P.C. Control Assembly	1
		13	404460-1	. Support - P.C. Board	4
		14	490545	. Spacer	2
		15	402037-9	. Grommet - Rubber	1
		16	401937-8	. Strip - Terminal, 14 Station	1
		17	404400	. Nameplate - Terminal Strip	1
		18	203627-7	. Circuit Breaker - Pushbutton	1
		19	AAW-1199	. Bracket - Mounting Resistor	2
		20	16DA-3493	. Washer - Insulator	8
		21	405154-6	. Resistor - Fixed, 100 W	4
		22	204036	. Label - Precautionary, Static	1
		23	204068	. Base	1
		*24	203047-5	. Plate - Mtg. Caster	1
		*25	403702-1	. Caster	2
		26	204076	. Brace	1
		*27	203052	. Support - Axle, Rear	2
		*28	201607-12	. Axle - Steel	1
		*29	No Number	. Washer - FL. ST. 3/4	4
		*30	405054-4	. Wheel	2
		*31	No Number	. Pin - Cotter, 1/16 x 1-1/2	2
		32	830134	. Panel - Side, Left	1
		33	405278-13	. Capacitor - Electrolytic	6
		34	361052-10	. Clamp - Cap. Mtg.	4
		35	204092	. Bar - Bus	4
		36	203885	. Choke - Filter Assembly, Input	1
		37	830726-1	. Contactor - Line	1
		38	204154	. Transformer - Power Assembly	1
		*	These parts are shown in relationship to their location in the machine, but they are all part of Carryall Kit 910230B-10		

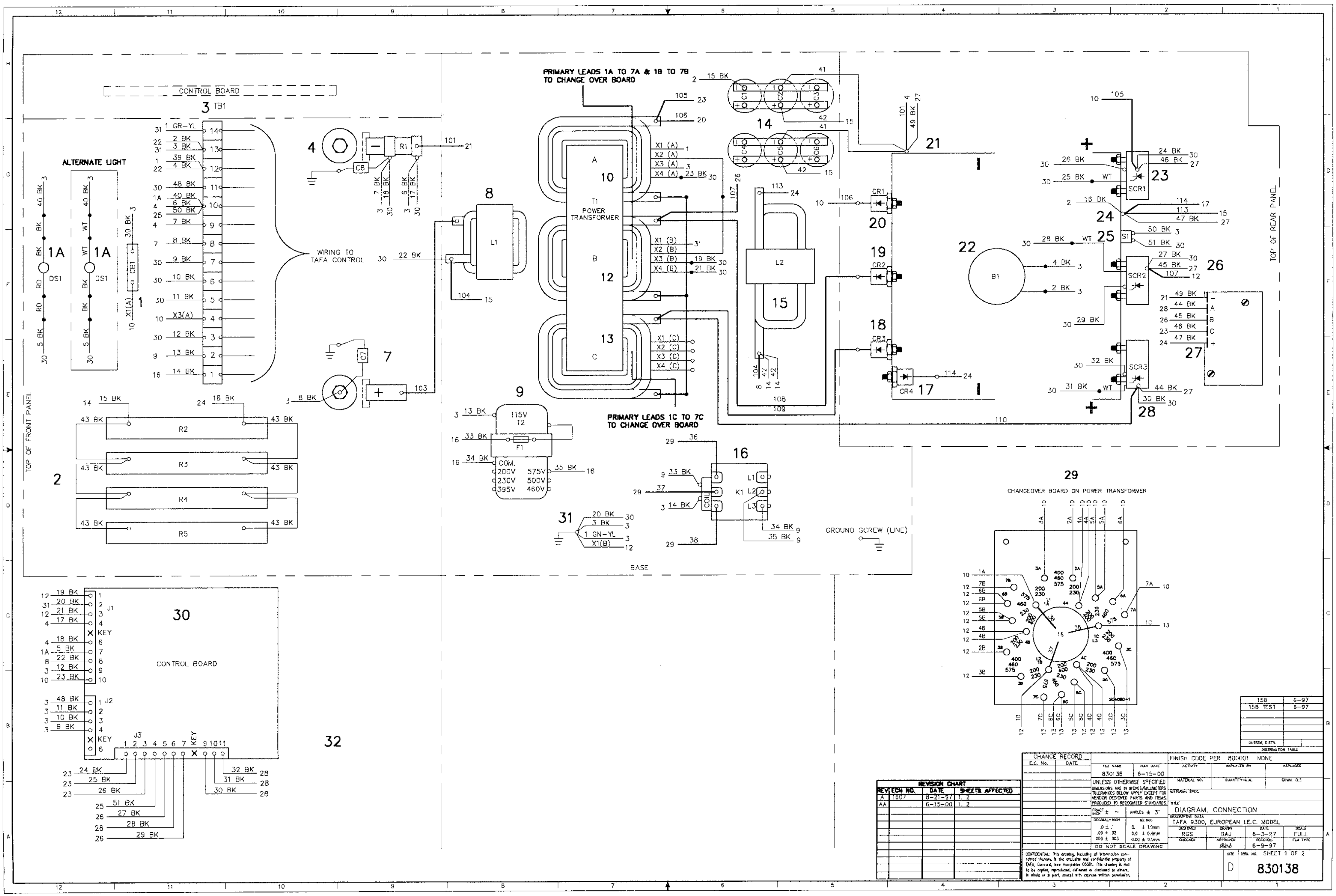
Parts List for Figure 7-1

Quantity Recomm. Spares Class 1	Class 2	Item No	Part Number	Description	Qty per Assy
		39	204090-1	. . Board - Voltage Control	1
		40	204091	. . Bracket - Mounting	1
		41	CW-811	. Link - Voltage Changeover	9
		42	830130-1	. Transformer - Control	1
		43	W-11166-11	. Fuse - 1/2 A.	1
		44	204077	. Choke - Filter	1
		45	204066	. Panel - Rear	1
		46	203785	. Bracket - Mounting	2
		47	409870	. Washer - Insulating	8
		48	409869	. Bushing - Insulating	8
		49	404044-7	. Thermostat - Overload	1
		50	204375	. Suppressor - Surge Assembly	1
		51	405140-1	. Clamp - Mounting	3
		52	203776-1	. Bar - Bus	3
		53	405139	. Rectifier - Silicon, Controlled	3
		54	16DA-954-12	. Pin - Spring	3
		55	203779	. Heat Sink - Top	1
		56	8RT-609	. Fan	1
		57	830121	. Bracket - Mtg. Motor	1
		58	12TW-595-1	. Motor - Fan	1
		59	402833-3	. Diode - Silicon, Neg. Base	1
		60	W-10933-3	. Diode - Silicon, Neg. Base	3
		61	830120	. Heat Sink	1
		62	201751-1	. Bracket - Mounting Motor	1
		63	No Number	. Nut - 1/2-13, Hex, Flanged ST.	2
		64	5CW-974	. Bar - Bus	2
		65	5CW-975	. Bushing - Insulator	2
		66	5CW-976A	. Washer - Insulating	4
		67	No Number	. Washer - Flat, ST, 1/2	3
		68	No Number	. Washer - LK, Std. 1/2	5
		69	No Number	. Screw - 1/2-13 x 1-3/4, HHC, ST.	2
		70	351505	. Screw - 1/2-13 x 1-3/4, HHC, ST. (Drilled for Item 72)	1
		71	No Number	. Washer - LK, Std., #6	1
		72	No Number	. Screw - #6-32 x 3/8 Rd. Hd. MH. ST.	1
		73	CW-1142A	. Shunt - 50 MV, 400 Amp	1
		—	405548	. Label - Frame Ground	1
		—	408891	. Label - Ground	1
		74	No Number	. Screw - 1/2-13 x 1, HHC ST.	1
		75	204491	. Label - Voltage Changeover	1
		76	830175	. Shield - Heat	1
		—	Not Illustrated		

DIAGRAMS

- Note the model and specification number shown on the equipment nameplate.
- Locate these numbers in the model and specification number columns below.
- Use only those diagrams and instructions that are applicable.

MODEL NUMBER	SPECIFICATION NUMBER	CONNECTION DIAGRAM	SCHEMATIC DIAGRAM	VOLTAGE CHANGEOVER DIAGRAM
TAFA 9300	100006-1	830138 Sheet 1	830138 Sheet 2	204094



REV	ECN NO.	DATE	SHEETS AFFECTED
A	1607	8-21-97	1, 2
AA		6-15-00	1, 2

CHANGE RECORD

FINISH CODE PER 800001 NONE

FILE NAME 830138 — PLOT DATE 6-15-00

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES/MILLIMETERS TOLERANCES BELOW APPLY EXCEPT FOR VENDOR DESIGNED PARTS AND ITEMS PRODUCED TO RECOGNIZED STANDARDS

DO NOT SCALE DRAWING

TITLE: DIAGRAM, CONNECTION

DESCRIPTIVE DATA: TAFA 9300, EUROPEAN I.E.C. MODEL

DESIGNED RGS — DRAWN BAJ — DATE 6-3-97 — SCALE FULL

APPROVED — RECORDS 6-9-97

SIZE D — DWG. NO. 830138 — SHEET 1 OF 2

158	6-97
158 TEST	6-97

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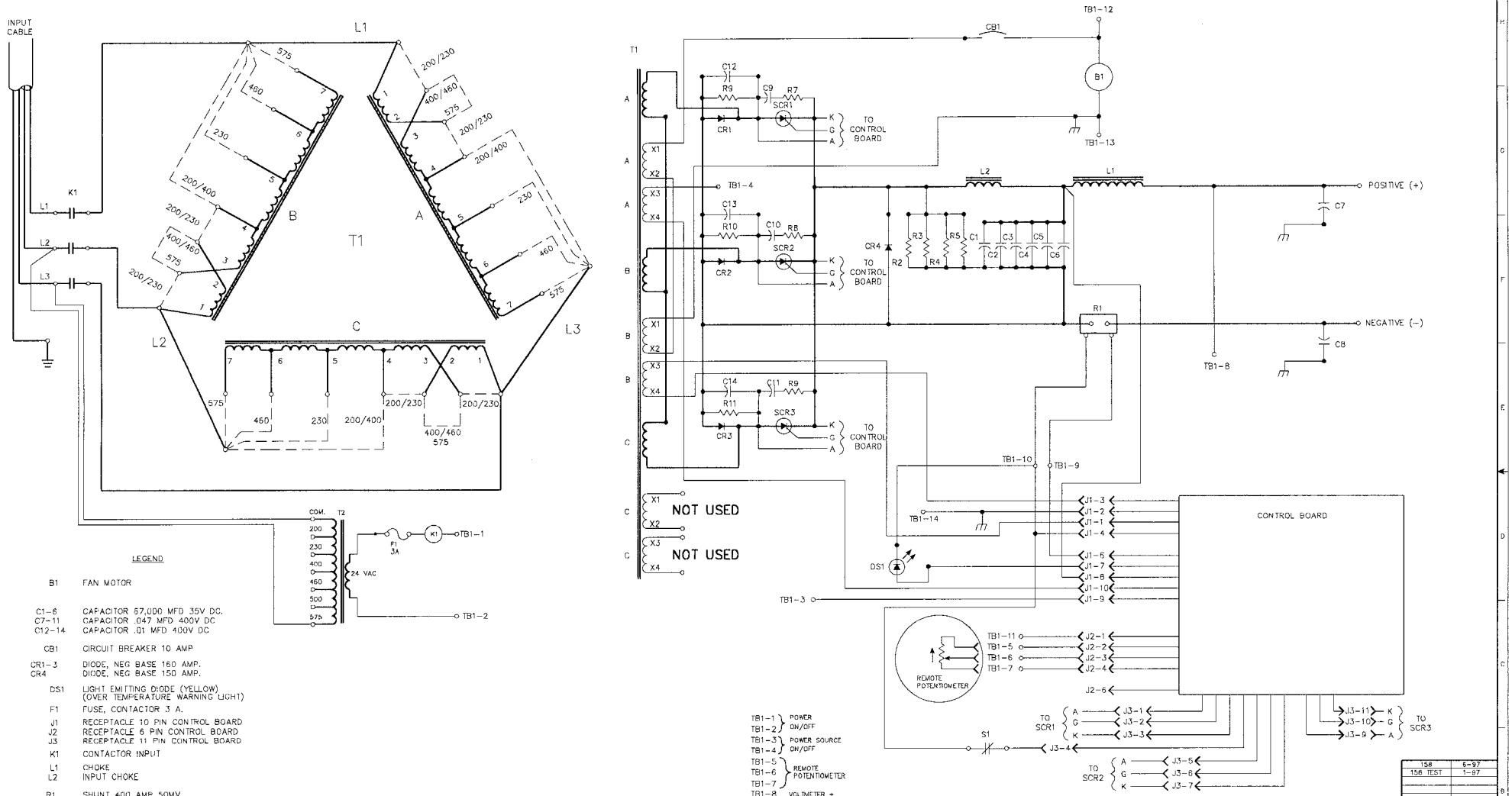


LEGEND

B1	FAN MOTOR
C1-6	CAPACITOR 57,000 MFD 35V DC.
C7-11	CAPACITOR .047 MFD 400V DC
C12-14	CAPACITOR .01 MFD 400V DC
CB1	CIRCUIT BREAKER 10 AMP
CR1-3	DIODE, NEG BASE 160 AMP.
CR4	DIODE, NEG BASE 150 AMP.
DS1	LIGHT EMITTING DIODE (YELLOW) (OVER TEMPERATURE WARNING LIGHT)
F1	FUSE, CONTACTOR 3 A.
J1	RECEPTACLE 10 PIN CONTROL BOARD
J2	RECEPTACLE 6 PIN CONTROL BOARD
J3	RECEPTACLE 11 PIN CONTROL BOARD
K1	CONTACTOR INPUT
L1	CHOKE
L2	INPUT CHOKE
R1	SHUNT 400 AMP 50MV
R2-5	RESISTOR 10 OHM 100W
R6-8	RESISTOR 50 OHM 5W
R9-11	RESISTOR 680 OHM 3.25W
S1	THERMOSTAT
SCR1-3	RECTIFIER, SILICON CONTROLLED
T1	TRANSFORMER POWER
T2	TRANSFORMER CONTROL
TB1	TERMINAL BLOCK (14)

TB1-1 }	POWER ON/OFF
TB1-2 }	
TB1-3 }	POWER SOURCE ON/OFF
TB1-4 }	
TB1-5 }	REMOTE POTENTIOMETER
TB1-6 }	
TB1-7 }	
TB1-8	VOLTMETER +
TB1-9	AMPMETER +
TB1-10	VOLT & AMPMETER -
TB1-11	ARC ESTABLISH
TB1-12 }	115 VOLTS AC
TB1-13 }	
TB1-14 }	
N.C.	
N.C.	

158	6-97
158 TEST	1-97

CHANGE RECORD

E.C. No.	DATE

M

FINISH CODE PER B00001: NONE

FILE NAME	PLOT DATE
830138S2	6-15-00

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES/MILLIMETERS
TOLERANCES BELOW APPLY EXCEPT FOR VENDOR DESIGNED PARTS AND ITEMS PRODUCED TO RECOGNIZED STANDARDS.

FRACT. ±	ANGLES ± 3°
DECIMAL-INCH	METRIC
.0 ± .1	.0 ± 1.0mm
.00 ± .02	.0 ± 0.4mm
.000 ± .003	.00 ± 0.1mm

DO NOT SCALE DRAWING

ACTIVITY	REPLACED BY	REPLACES
MATERIAL NO.	QUANTITY-U/M.	COMM. CLS.
MATERIAL SPEC.		

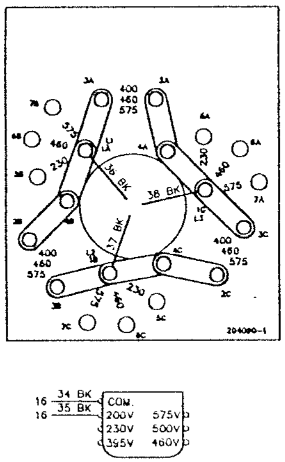
TITLE: DIAGRAM, SCHEMATIC
DESCRIPTIVE DATA: TAFA 9300, EUROPEAN L.E.C. MODEL

DESIGNED	DRAWN	DATE	SCALE
ROS	BAJ	6-3-97	FULL
CHECKED	APPROVED	RELEASED	ITEM TYPE
	dbb	6-9-97	~

OUTSIDE DISTRIB.
DISTRIBUTION TABLE

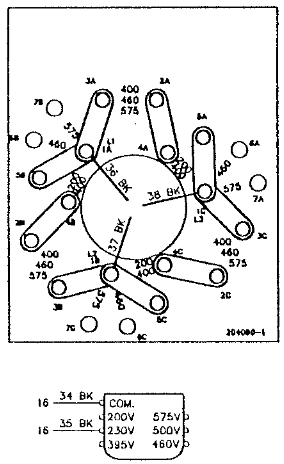
SIZE D | DWG. No. 830138 | SHEET 2

FIG. 1
LINKS FOR 200V LINE



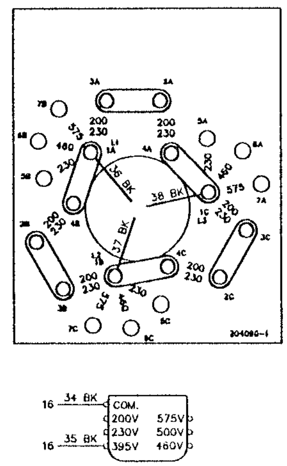
CONTROL TRANSFORMER ON YOKE

FIG. 2
LINKS FOR 230V LINE



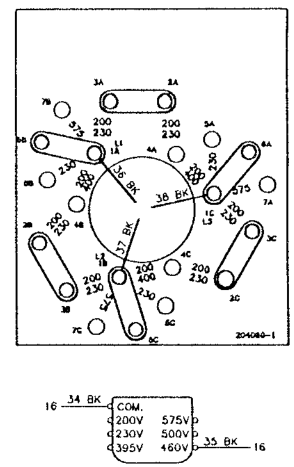
CONTROL TRANSFORMER ON YOKE

FIG. 3
LINKS FOR 400V LINE



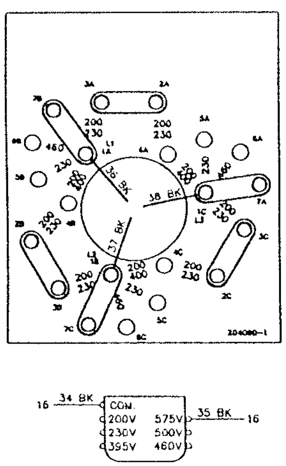
CONTROL TRANSFORMER ON YOKE

FIG. 4
LINKS FOR 460V LINE



CONTROL TRANSFORMER ON YOKE

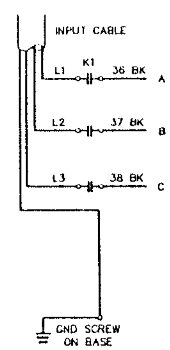
FIG. 5
LINKS FOR 575V LINE



CONTROL TRANSFORMER ON YOKE

INPUT CABLE DIAGRAM

SEE NOTE 2



INSTRUCTIONS FOR SETTING VOLTAGE CHANGEOVER PANEL AND CONNECTING POWER LINE
(ALSO SEE INFORMATION IN INSTUCTION MANUAL)

1. CHECK NAMEPLATE OF WELDER TO BE CERTAIN IT IS DESIGNED TO ACCOMMODATE THE DESIRED LINE VOLTAGE.
2. MOVE LEAD 35 BLACK ON CONTROL TRANSFORMER AS SHOWN ACCORDING TO THE LINE VOLTAGE
3. CHECK THE LOCAL CODES FOR PROPER LINE WIRE SIZE TO BE USED WITH WELDER REQUIREMENTS SHOWN ON THE NAMEPLATE OF THE WELDER. IF CODES ARE NOT ESTABLISHED FOR THE AREA USE THE CHART IN THE "INSTALLATION" SECTION OF THE MANUAL.
4. CONNECT THE THREE PHASE POWER LINE TO THE LINE CONTACTOR LOCATED ON THE BASE.
   CAUTION-- BE CERTAIN INPUT CIRCUIT IS OPEN BEFORE HANDLING LINE.
5. CONNECT THE POWER SYSTEM GROUND TO THE SCREW ON THE BASE.

NOTES:

1. FOR PRIMARY AND SECONDARY CONNECTION DIAGRAM AND SCHEMATIC SEE 204093 FOR THE TAFA 350
2. INPUT CABLE CONNECTIONS ARE TYPICAL TO ALL FIGURES SHOWN.
3. ANY CHANGES TO THIS DRAWING MUST BE REFLECTED ON DRAWING 204491.

CHANGE RECORD	
E.C. No.	DATE
41 1422	5-20-97

158 1/97

204094 12-8-97

UNLESS OTHERWISE SPECIFIED

DO NOT SCALE DRAWING

FINISH CODE PER 800001: NONE

TITLE: DIAGRAM, VOLTAGE CHANGEOVER

DRAWN: BAJ DATE: 8-08-91 SCALE: NONE

1-8-92

D 204094