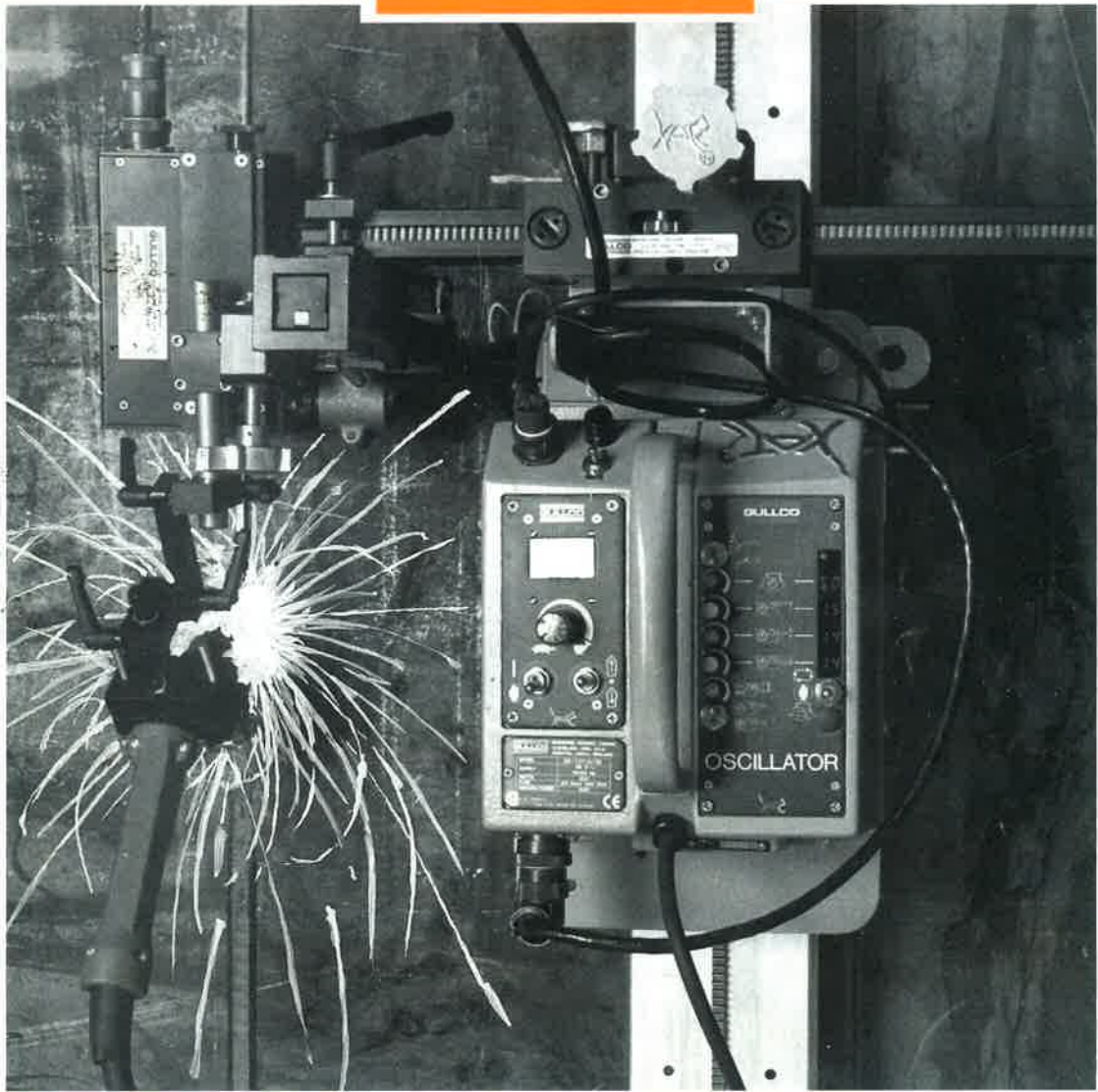




GULLCO



KAT CARRIAGE/COMPACT OSCILLATOR COMBINATION

This advanced oscillation "package" is designed to increase production and improve the quality of the weld produced in automatic mechanized welding operations by minimizing weld defects such as poor penetration, incomplete fusion, overlap and undercut.

It combines the Gullco "Kat" all-position travel carriage with the Model GK-197-O-100 Compact Oscillator head and its controls which are incorporated in the carriage.

The oscillator imparts a pendulum, tangential or step (square pattern) motion to the welding gun with adjustable stroke widths. The control enables presetting and/or infinitely variable control of the stroke speed, three independent position dwell times, automatic wire feed start and travel start/stop interface.

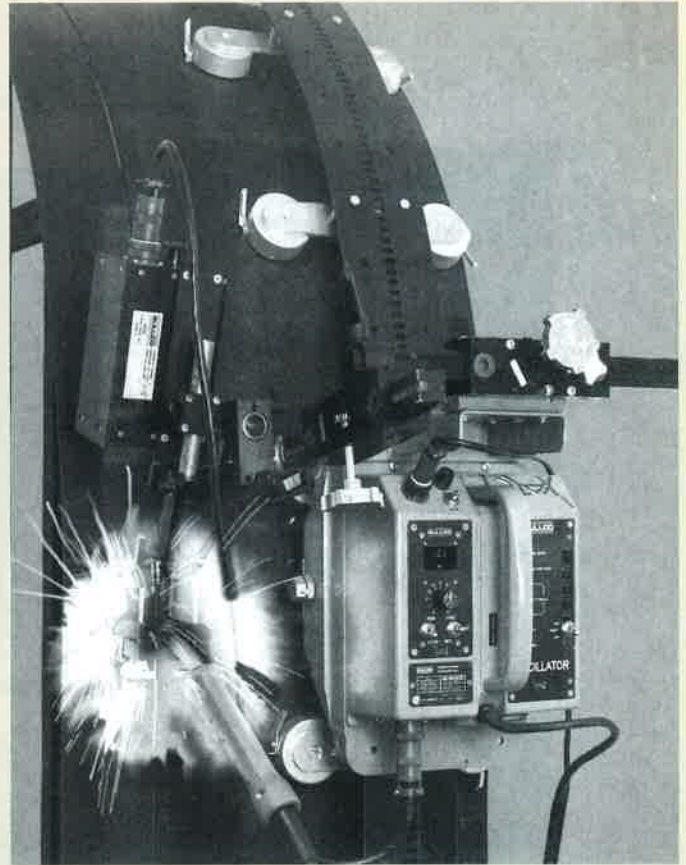
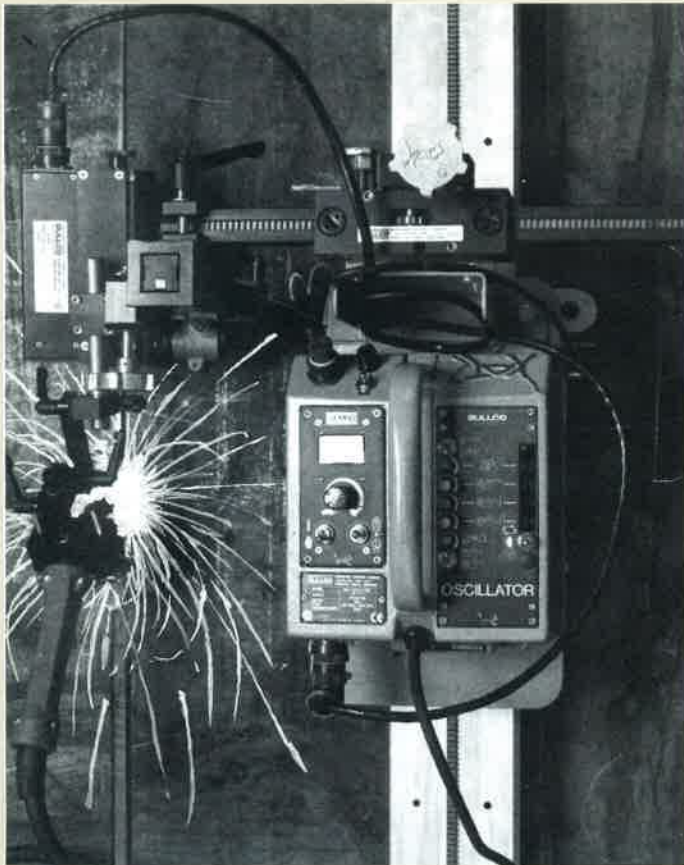
By combining welding gun oscillation movement with the precision controlled travel speed of the Kat carriage, a wide range of weld patterns can be produced... as described on the following pages.



LR 35006 - 3

Patent No. 50070792





Models For All-Position Flat or Curved Surface Oscillation....

The Gullco Kat/Oscillator "Combo" is comprised of the Compact Oscillator head, controls, mounting brackets, connecting cable, 1-1/8" heavy duty micro fine rack boxes with rack arms for horizontal and vertical adjustments and standard MIG gun holder, together with a "KAT" Carriage for rigid track or flex track as shown above.

Model Series GK-197-O- Combo (left) is supplied with a "Kat" specifically designed for operation on rigid aluminum Kat track.

Model Series GK-197-FO- Combo (right) is supplied with a Gullco "Kat" specifically designed for operation on flexible spring steel Kat track.

All are equipped with the Gullco micro processor-based programmable control with a closed loop feedback for complete speed accuracy regardless of load [0-100 lbs. (45 kgs)] when operating on any plane.

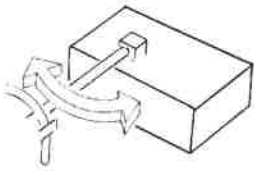
Detailed information is provided on the back page of this brochure.

Also Available....

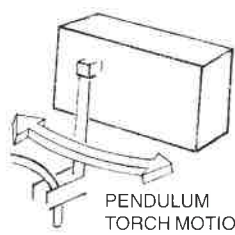
Separate Remote Controlled Compact Oscillator Assembly - Model GK-197-001-RC

This assembly, is comprised of Oscillator Head Model GK-197-O-100 with MIG gun holder; Remote Control Box; Control Cable; Micro Fine Rack Boxes; Rack Arms; and Brackets. It can be mounted on existing KAT All Position Travel Carriages, Welding Head Manipulators, Side Beam Carriages, etc.





TANGENTIAL/SCRIBING MOTION



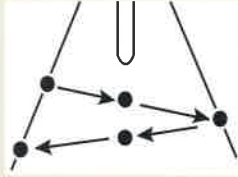
PENDULUM TORCH MOTION

EXCLUSIVE TANGENTIAL AND PENDULUM MOTION

The oscillator head is capable of producing two distinct motions when mounted in either the horizontal or vertical position. One, as shown above at left is a tangential or scrubbing motion. The other, (right) is a pendulum motion. Together they meet all welding oscillation application requirements.

INDEPENDENT DWELLS

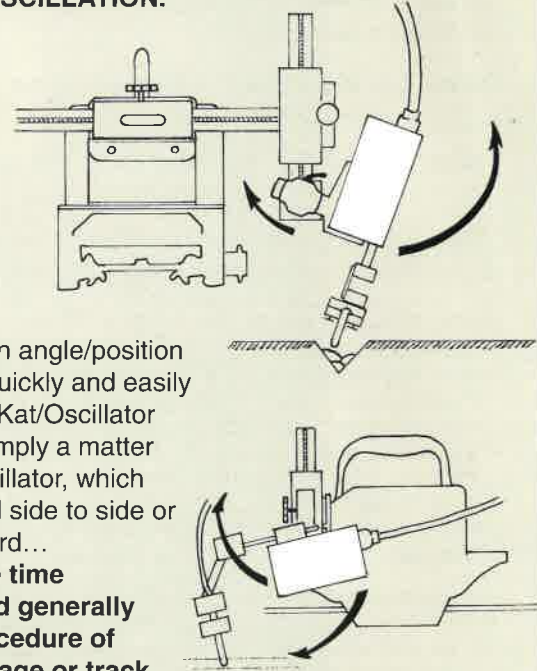
Independent, electronically controlled dwells (0-5 sec.) at each end of the stroke and at the centre of the stroke path.



ADJUSTABLE STROKE WIDTH -Easy, precise adjustment to provide the required weld pattern.

OSCILLATION SPEED CONTROL -Oscillation speed electronically controlled (8 to 188 cycles per min.) through speed potentiometer.

Only The Gullco "Combo" Has It....
OSCILLATOR HEAD TILTS INDEPENDENTLY
ENABLING TORCH TO BE POSITIONED AT
EXACTLY CORRECT ANGLE FOR EFFECTIVE
MULTI-PASS OSCILLATION.



The proper torch angle/position is established quickly and easily with the Gullco Kat/Oscillator "Combo". It's simply a matter of tilting the oscillator, which can be adjusted side to side or forward/backward...
eliminating the time consuming and generally ineffective procedure of tilting the carriage or track.

....Combining High Precision With Exceptional Versatility

High Precision, state-of-the-art controls on the "Kat" carriage automatically direct the desired forward/reverse movement or dwell of the welding gun and it's oscillation motion to produce the numerous weld patterns shown below. The carriage control (left in photo) enables the carriage speed and

direction to be pre-set and shown on its LED display in ipm or cm/min. The oscillator controls at right, enable pre-setting of stroke speed, oscillator and carriage dwell times, and carriage delay/start after wire feed start. A dwell on/off switch is also provided to allow dwell times to remain in a pre-set position during "no dwell" oscillation. Detailed information is provided on the following page.

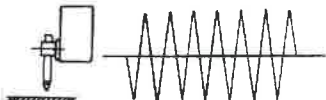


Some Of The Weld Patterns Attainable With The Gullco "Kat"/Oscillator "Combo"

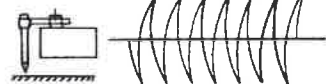
ANGULAR OSCILLATION PATTERN

KAT CARRIAGE TRAVELS CONTINUOUSLY

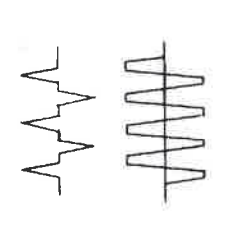
WITH OSCILLATOR HEAD VERTICAL TO WORK



WITH OSCILLATOR HEAD HORIZONTAL TO WORK

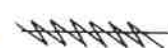


COMBINING OSCILLATION AND OSCILLATOR DWELL



SPECIAL OSCILLATION

Tilted - for Welding On Horizontal Plane



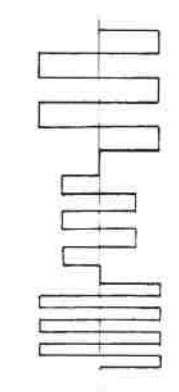
Straight Line - Back and Forth Oscillation



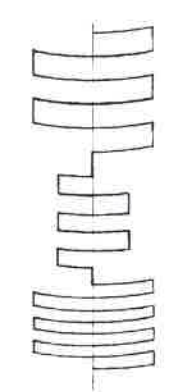
STEP OSCILLATION PATTERN

KAT CARRIAGE TRAVELS ONLY DURING END DWELLS

Oscillation Head Vertical



Oscillation Head Horizontal





KAT CARRIAGE OSCILLATOR COMBINATION

Specifications:

The Gullco Kat Carriage/Oscillator "Combo" is available in two series of models to suit your specific application requirements.

Model GK-197-O: incorporates "Kat" for use on **rigid track**

Model GK-197-FO: incorporates "Kat" for use on **flexible track**

The Compact Oscillator is also available as a separate, remote controlled unit designated Model GK-197-001-RC.

MAIN COMPONENTS: KAT/OSCILLATOR COMBO SERIES

- Compact Oscillator Head
- Control Cable
- Rack Box Riser Bracket
- "Kat" Travel Carriage
- Oscillator Controls Housed in "Kat" Carriage
- Heavy Duty Micro fine Rack Boxes and Rack Arms for Horizontal and Vertical adjustment
- Oscillator Head Mounting Brackets for tilt and swivel of Oscillator Head
- Torch Holder For Standard MIG gun

Compact Oscillator Head and Control

Independent Oscillator Head, Model GK-197-O-100 with 72" (1828.8 mm) control cable; bracketry to provide both tangential and pendulum motion; stroke width adjustable 0 to 1.94" (49.3 mm) at 6" (152.4 mm) extension; output torque 5 lbs/ft. (80 kgs/cm); electronic Oscillator controls with speed potentiometer covering oscillation speed range 8 to 188 cycles/minute; independent dwells at each end of stroke and at the center of the stroke; variable from 0 to 5 seconds; automatic wire feed start; adjustable Carriage delay start, 0 to 3 seconds; dwell on/off switch; auto start switch; toggle switch to change Oscillator mode from standard angular oscillation pattern to step square wave oscillation pattern.

Micro Fine Rack Boxes, Rack Arms and Brackets

1-1/8" (28.6 mm) Micro Fine Rack Box with 18" (457.2 mm) Rack Arm to provide 10" (254 mm) horizontal oscillator adjustment; 1-1/8" (28.6 mm) Rack Box with 12" (304.8 mm) Rack Arm to provide 4" (101.6 mm) vertical adjustment; Rack Box Riser Bracket; adaptor block assembly; oscillator head swivel mount bracket; bronze swivel clamp to enable full tilt and swivel of oscillator head; torch holder for standard MIG welding gun. Approximate shipping weight of complete package 54 lbs. (24.5 kgs).

SEPARATE REMOTE CONTROL

COMPACT OSCILLATOR MODEL GK-197-001-RC

Includes independent Compact Oscillator Head Model GK-197-O-100 with MIG gun holder, Micro Fine rack boxes, rack arms and brackets as listed above and 72" (1828.8 mm) control cable. The remote control box has the same controls as incorporated in the "Combo" Kat except with three multi-pin connectors: one for connection to a carriage utilizing a control to provide delay/start, one for wire feed start and the other for connection to the oscillator head.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Distributed by:

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Gullco Kat Travel Carriage

Equipped with heavy duty wheel assemblies (rigid "Kat" Track only). Controlled by Gullco micro processor-based 24 Volt D.C. programmable control with closed loop tack feedback system for complete speed accuracy, regardless of load, 0 to 100 lbs. (0-45 kgs.) when operating in any plane. Control includes 4 or 10 turn speed potentiometer with LED display in ipm or cm/min. Forward/stop/reverse switch and run/stop switch.

"KAT" CARRIAGE/COMBO SPEED RANGES Model GK-197-O - rigid track system

Model	Speed Ranges	
	in/min	cm/min
GK-197-O-018	0.5-16.5	1.3 to 41.9
GK-197-O-036	1 - 33	2.6 - 83.8
GK-197-O-090	3 - 90	7.7 - 228.6

Note: The above standard speed ranges can be lowered or increased using optional gear train attachments available from Gullco

Model GK-197-FO - flex track system

Model	Speed Ranges	
	in/min	cm/min
GK-197-FO-018	1 - 25	2.6 - 63
GK-197-FO-036	1.8 - 54	5 - 137
GK-197-FO-090	7.5 - 136	19 - 345



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