



Installation and Operating Guide

Including Part List

Trap GMV 200 Series

Skeet GMV 400 Series & 700 Series

Sport GMV 500 Series



Revised Edition, 2003

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First Edition, 2002

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GMV Super Star Limited Warranty Registration Card

Use this card in case of production defects within two years from purchase.

Owner

Name _____

Street _____

City _____

Phone No. _____

State/Province _____

Zip (Postal) Code _____

Fold and put together with a piece of adhesive tape.

Product

Model No. _____

Serial No. _____

Date of Purchase _____

Purchased from _____

Date _____ Signed _____

Title _____

Adhesive Tape

Sender

Postage

GMV Super Star Ltd
150 N.Michigan Avenue Suite
1200
Chicago IL-60601
USA

GMV Super Star Clay Target Throwers Limited Warranty

For TWO YEARS from the original date of purchase, GMV Super Star will repair any defects in material or workmanship on PARTS ONLY. These defects must be determined to be defective by our examination.

The owner shall, at his own expense and risk, return the machine or defective parts to the GMV Super Star factory outlet or to a GMV Super Star authorized dealer, with all transportation charges to be prepaid.

All replacement parts will be FOB our factory outlet or our GMV Super Star dealer. We shall not be liable for any drayage or labor costs.

This limited warranty is in addition to any statutory warranty.

We do not authorize any person or representative to make any other warranty, or assume for us liability, other than those contained herein. Any agreement outside of, or contradictory to the foregoing shall be void and of no effect.

The following are not considered defects and are not included in the warranty:

1. Damage resulting from an improper line of voltage.
2. Service required as a result of damage due to misuse.
3. Service required as a result of accidents, alteration, fire flood or acts of God.
4. Service required to regular wear parts such as service cords, throwing arms, microswitches, target retainer O-rings and brushes.

The warranty registration card must be returned to GMV Super Star dealer within 30 days of purchase or warranty is null and void.

This limited warranty ends and our responsibility ceases if any changes are made to the machine, if the serial number is mutilated, altered or removed or if any parts or devices not manufactured by GMV Super Star are added to the working mechanism of the machine.

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GMV's product assortment.

Models: ATM, ATM W, 274T, 296T, 455S/755S, 466S, 477S, 566T/577T

Model	ATM	ATM W	274T	296T
No. of machines	1	1	1	1
Capacity	560	560	250, 400	250, 400
Weight	375 lb. (170 kg)	375 lb. (170 kg)	374 lb. (170 kg)	385 lb. (175 kg)
Height	37"	37"	31-37"	42-48"
Width	38"	38"	38"	38"
Depth	35"	35"	35"	35"
Power	115 V	115 V	110 V 60 Hz or 220 V 50 Hz	110 V 60 Hz or 220 V 50 Hz
No. of motors	2 (1.0 Hp, 0.5 Hp)	3 (1.0 Hp, 0.5 Hp)	2 (1.0 Hp, 0,25 Hp)	3 (1.0 Hp, 0,25 Hp)
Interrupter	Programmable	Programmable	Programmable	Programmable
Throwing angles	30° 35° 45° 60° 80° 90°	30° 35° 45° 60° 80° 90°	30° 35° 45° 60° 80° 90°	30° 35° 45° 60° 80° 90°
Throwing heights	Adjustable	8° to 24°	Adjustable	8° to 24°

Model	455S/755S	466S	477S	566T/577T
No. of machines	2	1	1	1
Capacity	400, 700, 900	250, 400, 700, 900	250, 400, 700	400
Weight	233 lb. (106 kg)	233 lb. (106 kg)	231 lb. (105 kg)	250 lb. (113 kg)
Height	34", 45", 54"	26", 34", 45", 54"	26", 34", 45"	47,5"
Width	43"	43"	43"	48"
Depth	37"	37"	37"	52"
Power	110 V 60 Hz or 220 V 50 Hz	110 V 60 Hz or 220 V 50 Hz	12 V DC	110 V 60 Hz, 220 V 50 Hz & 12 V
No. of motors	1 (1.0 Hp)	1 (1.0 Hp)	1 (1.0 Hp)	1 (1.0 Hp)
Interrupter	None	None	None	None
Throwing angles	None/Adjustable	None	None	Adjustable
Throwing heights	Adjustable	Adjustable	Adjustable	Adjustable 5° to 70°

This is general numbers only

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DANGER

Read this Installation and Operating Guide before operating your unit.

Personal Security

To assure the finest performance, please read this manual carefully and let personnel with experience of similar equipment, assemble, disassemble and transport the equipment.

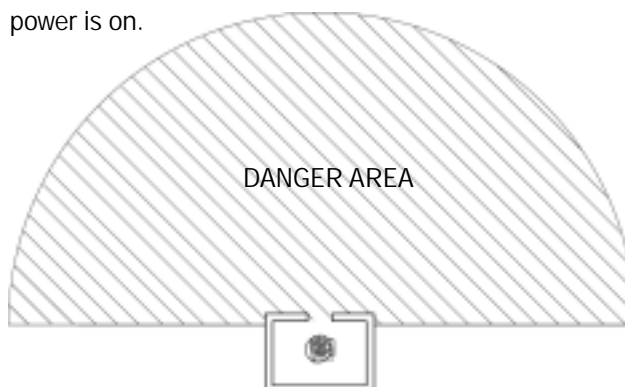
Every person involved with the set up, service, maintenance and daily operation of this equipment must read and follow the safety precautions contained in this manual.

When performing service and maintenance:

- Turn the power off, before entering the house of the thrower.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

No persons or objects should be kept within the danger area. There is a risk of personal injury from moving objects and clay targets.

No one should be in the house of the thrower or in the danger area when the main power is on.



The size of the danger area, depends on the settings of the thrower at the local site.

The radius should at least be the maximum distance of thrown clay targets.

Equipment Security

The equipment must be bolted down on a secure base when in use.

The main safety release shall be positioned in an appropriate location outside of the danger area.

Check safety equipment functions often.

- Check that the main safety release is working properly.
- The safety guards must always be mounted on the machine, when the machine is in use.

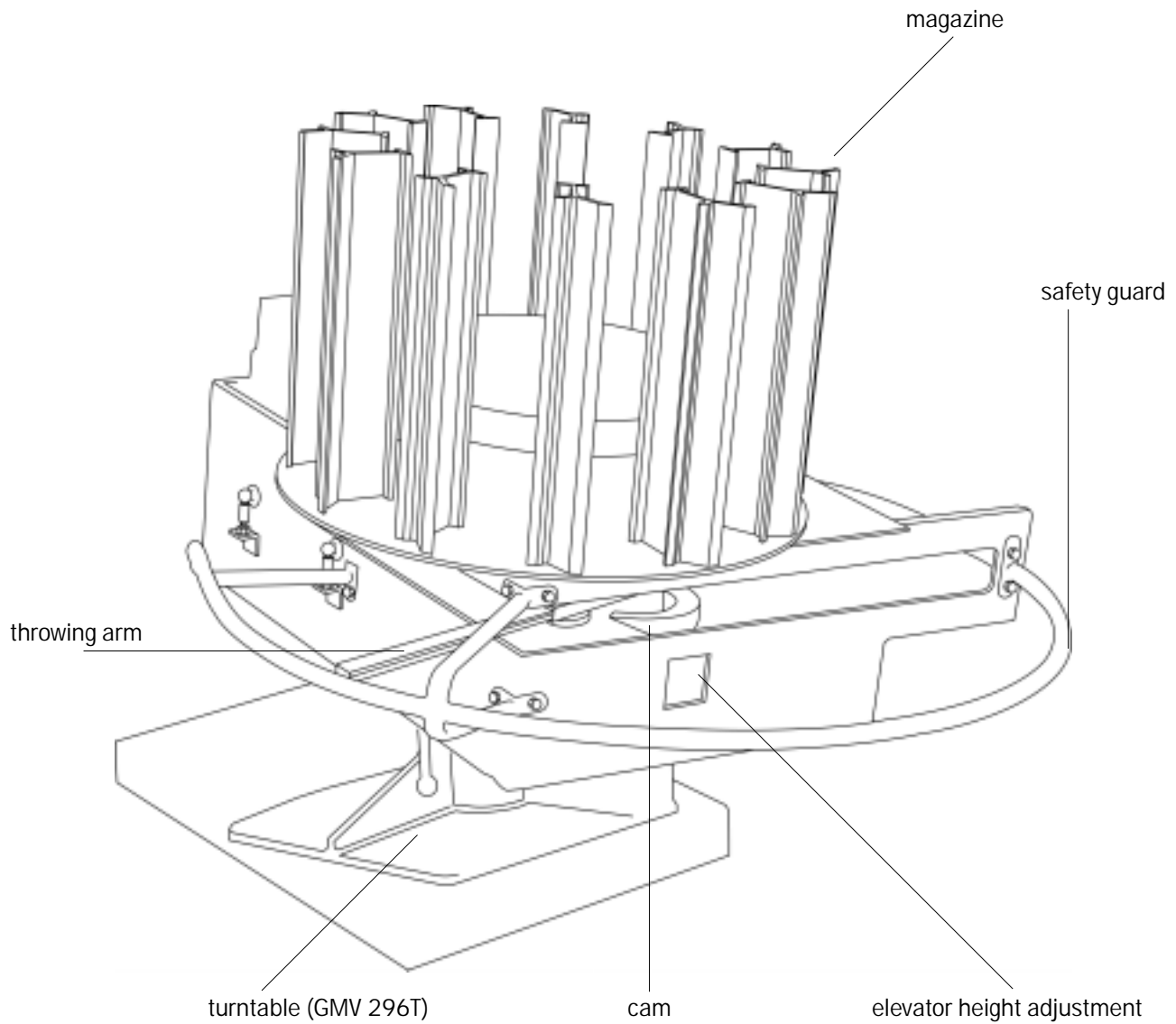
After every use, shut off the power to the machine using the main safety release and uncock the machine.

Observe all electrical equipment as being current carrying.

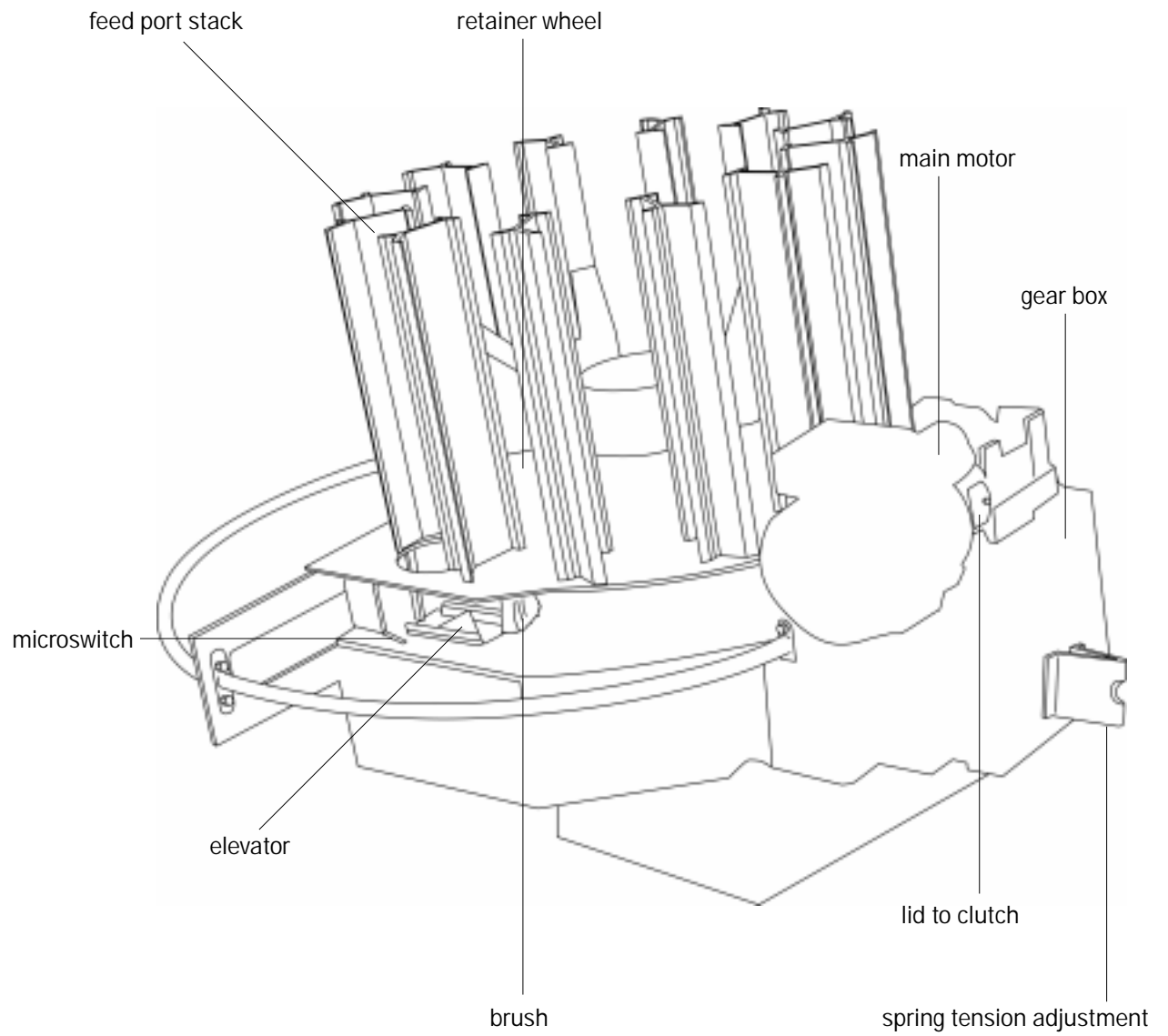
GMV will not be held responsible for any damage resulting from use of this equipment with voltage other than specified.

Models 274T, 296T, 455S, 466S, 477S, 566T/577T

General illustration of the Super Star Clay Target Thrower.



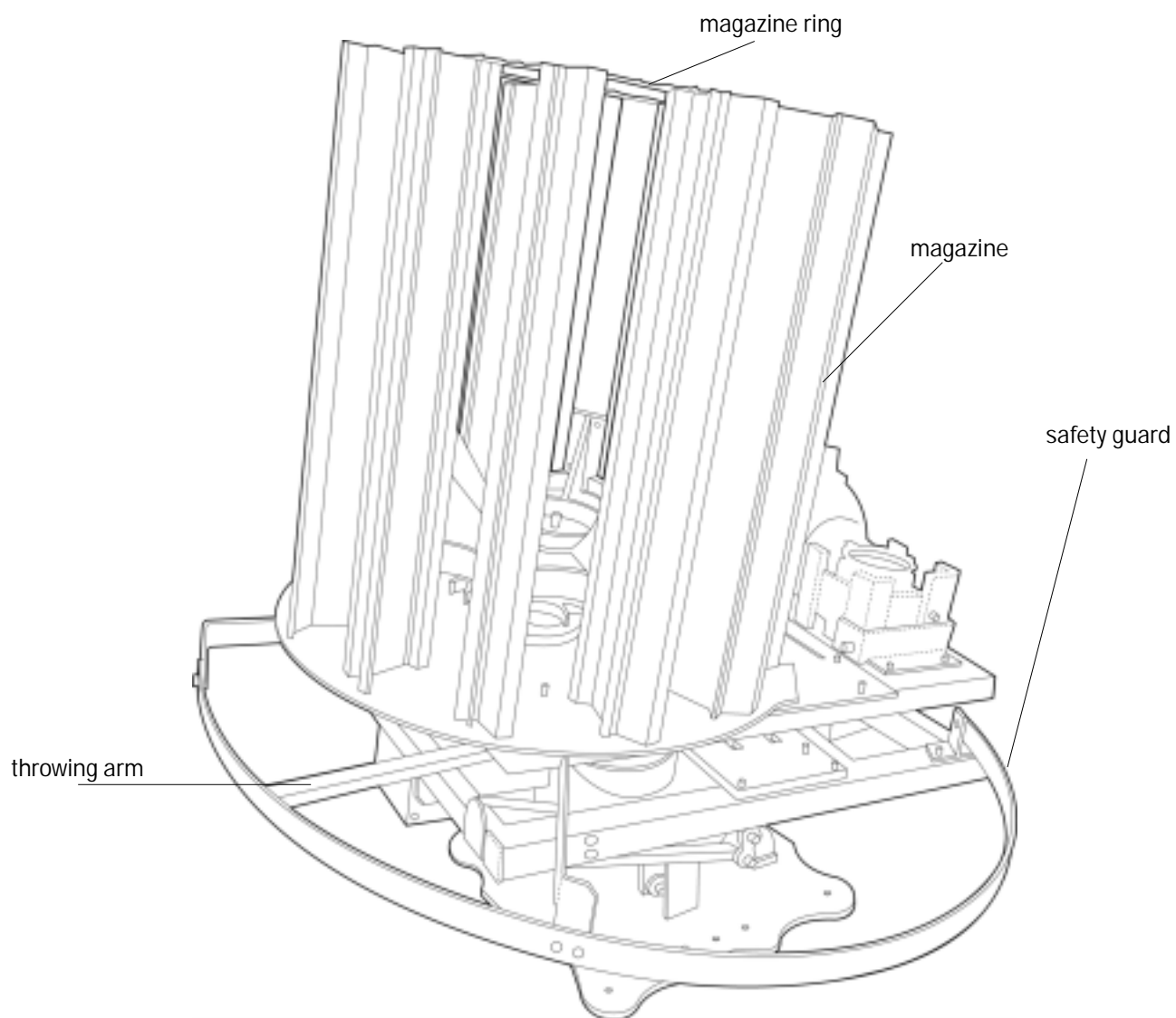
Front



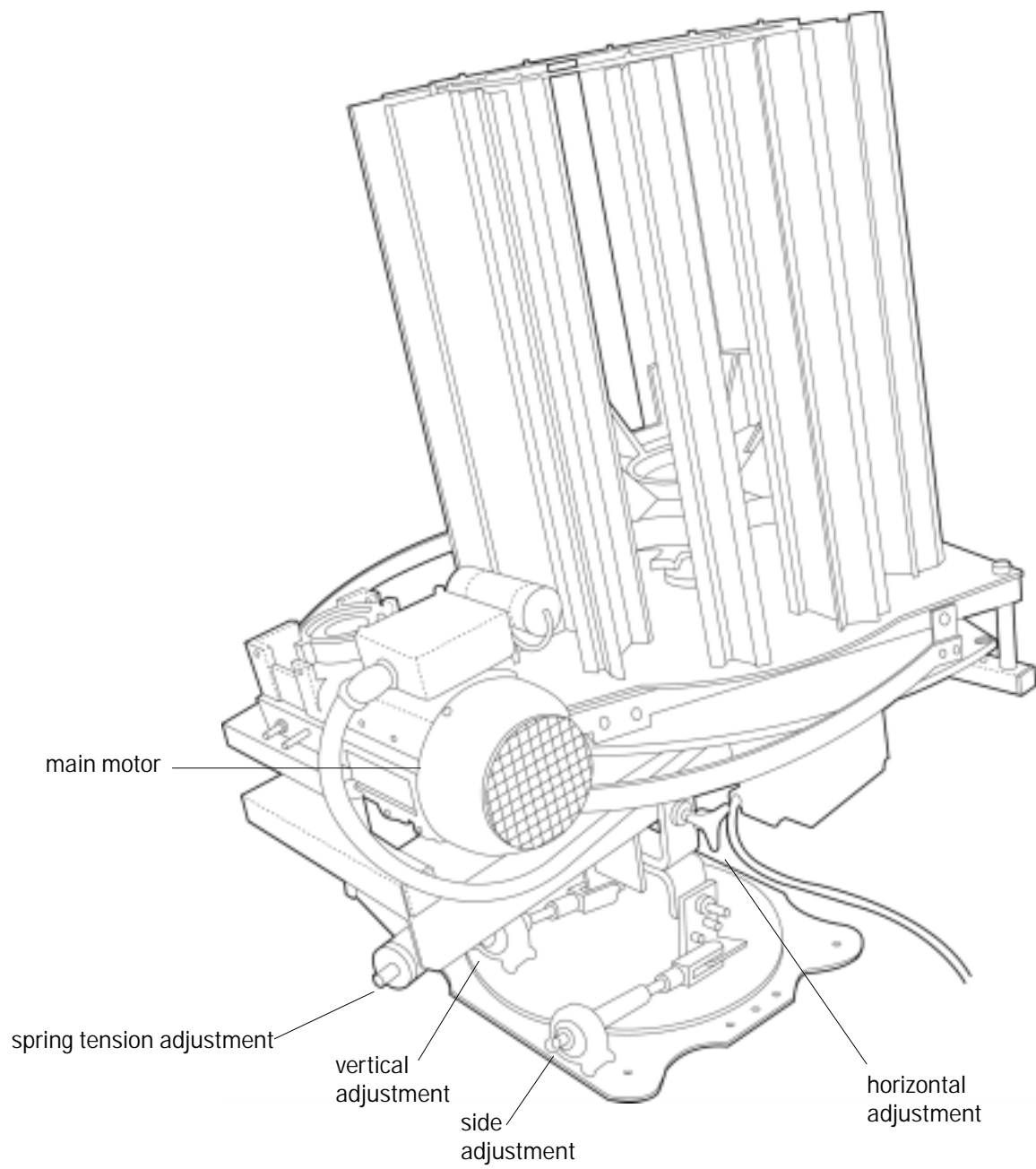
Rear

Model 755S

General illustration of the Super Star Clay Target Thrower model 755S.



Front

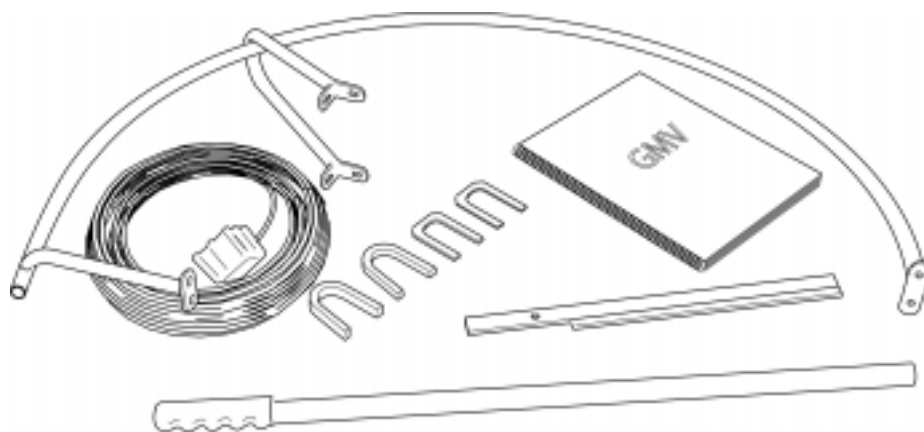


Rear

Unpacking

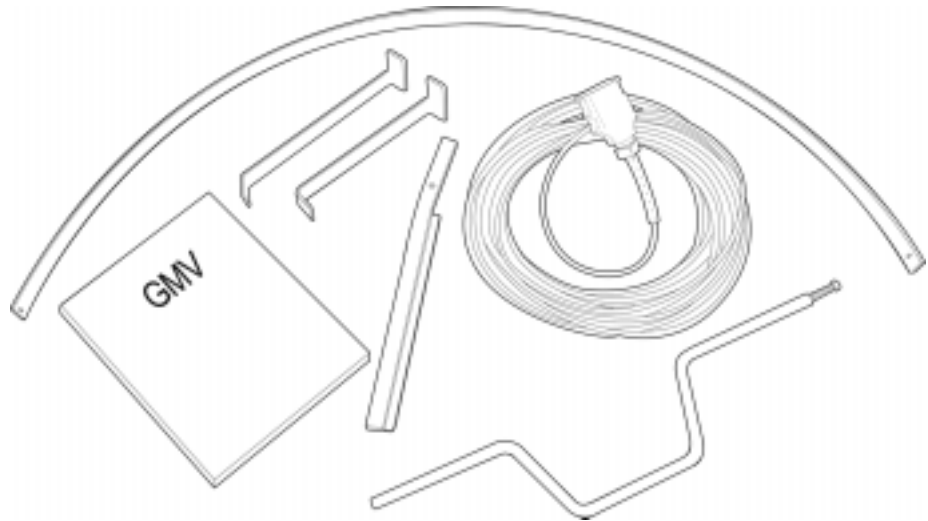
GMV 200 Trap, 400 Skeet and 500 Sporting Series

1. Remove all packing materials from the equipment.
2. Check for any visual damage to the equipment.
 - If any damage has occurred to the equipment during shipping, please contact the transport company as well as your GMV Super Star dealer.
3. Please make sure that the following parts are included with the machine:
 - Safety guard
 - Spring tension adjustment rod
 - Four spring tension adjustment spacers:
extra thin, small, medium and large
 - Throwing arm
 - Release cord
 - Installation and Operating Guide with a Warranty Registration Card



GMV 700 Skeet Series

1. Remove all packing materials from the equipment.
2. Check for any visual damage to the equipment.
 - If any damage has occurred to the equipment during shipping, please contact the transport company as well as your GMV Super Star dealer.
3. Please make sure that the following parts are included with the machine:
 - Safety guard
 - Two safety guard brackets
 - Adjustment crank
 - Throwing arm
 - Release cord
 - Installation and Operating Guide with a Warranty Registration Card



Power Supply

Make sure that it is enough power for the motors to produce full effect not to cause disturbances or damage to the motor. When in operation, each motor requires approximately 30 Amps to start up and 12 Amps to operate.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Remove the transportation bracket before clay target launch!

Beware of the throwing arm's speed when it releases.

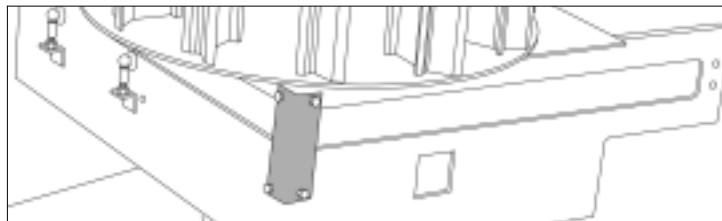
GMV 200 Trap and 400 Skeet Series

The preferred base for the machine, is a wood mount onto which the thrower's base plate can be bolted.

1. Unscrew the four Allen bolts in the magazine center. Lift the magazine off of the machine.



2. Put the machine in place on a wood base.
3. Put the magazine back in place and secure it.
4. Remove the transportation bracket.



5. Attach the throwing arm (see section of The Throwing Arm).
6. Fasten the safety guards.
7. Adjust the throwing angle:

GMV 200 series

- Adjust the throwing angles (see section of Installation Adjustments). Secure to base.

GMV 400 series

- Secure to base. Loosen bolts to adjust throwing angles (see section of Installation Adjustments).

DANGER

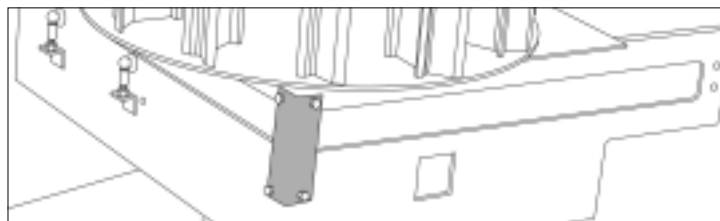
Do not plug in the machine before or during installation.

Remove the transportation bracket before clay target launch!

Beware of the throwing arm's speed when it releases.

GMV 500 Sporting Series

1. Put the machine in place on a wood base.
2. Secure to base. Adjust throwing angles (see section of Installation Adjustments).
3. Remove the transportation bracket.



4. Attach the throwing arm (see section of The Throwing Arm).
5. Fasten the safety guards.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Beware of the throwing arm's speed when it releases.

GMV 700 Skeet Series

1. Put the machine in place on a wood base.
2. Secure to base.
3. Attach the throwing arm (see section of The Throwing Arm).
4. Fasten the safety guard brackets.
5. Fasten the safety guard.
6. Adjust the throwing angle (see section of Installation Adjustments).

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Do not load the machine with broken targets.

Clear the table and the elevator of any fragments of broken targets.

Beware of the throwing arm's speed when it releases.

GMV 200 Trap Series

Adjustment of Throwing Angles

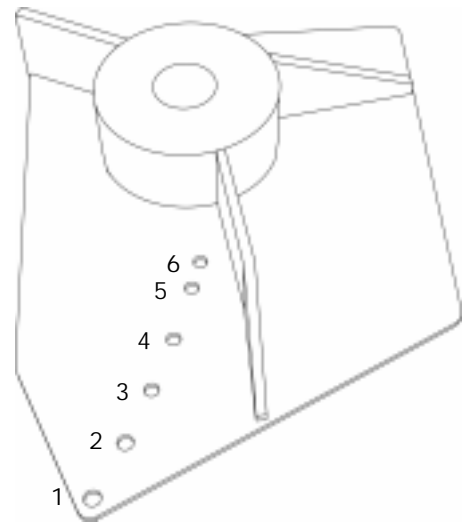
1. Fill the magazine with some targets, except for the feed port stack.
2. Rotate the magazine by releasing a target and fill the empty stack.
3. Turn the machine to the left-most position, to find the proper angle of the target path.
4. Do the same to the right-most position
5. Secure the machine to the wood base.

Throwing Angles

The six holes are found on the turntable.

Hole	Angle
1	$17.5^{\circ} + 17.5^{\circ} = 35^{\circ}$
2	$20^{\circ} + 20^{\circ} = 40^{\circ}$
3	$25^{\circ} + 25^{\circ} = 50^{\circ}$
4	$30^{\circ} + 30^{\circ} = 60^{\circ}$ UIT min.
5	$37^{\circ} + 37^{\circ} = 74^{\circ}$
6	$45^{\circ} + 45^{\circ} = 90^{\circ}$ UIT max.

Hole 1 = Winchester Hole 2
This is a general guide only.



Machine Placement in House for GMV 200 Series

ATA Pitted House minimum installation height.

GMV 274T 400 target capacity 38"

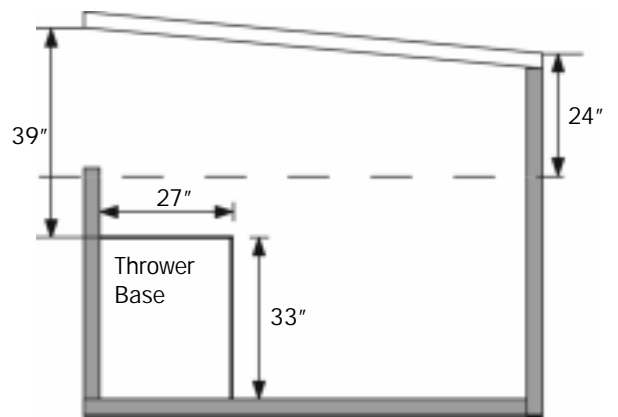
GMV 274T 250 target capacity 32"

GMV 296T 400 target capacity 41"

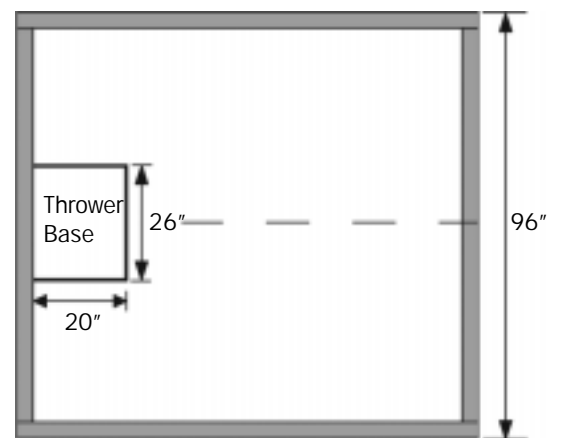
GMV 296T 250 target capacity 34"

The height to be measured from
the plane of the number 3
shooting position

Side view



Top view



DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Beware of the throwing arm's speed when it releases.

GMV 400 Skeet Series

Adjustment of Throwing Angles

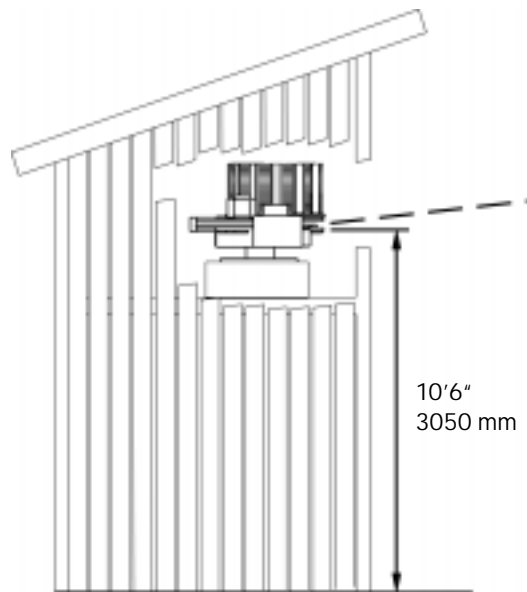
Prior to installing the GMV skeet machines, make sure the height of the base is correct.

The brown and blue wires that protrudes from the machine case are to be connected to the timer.

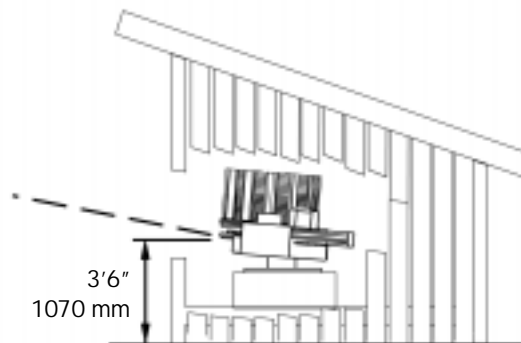
1. Secure the machine to a wood base.
2. Fill the magazine with some test targets, except for the feed port stack.
3. Release a target to test the angle of the target path.
4. If not correct, loosen the bolts to adjust.
5. Secure the machine again.
6. Repeat step 3-5 until the proper angle of the target path is found.

Machine Placement in Houses for GMV 400 Series

High House



Low House



DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

GMV 500 Sporting Series

Adjustment of Throwing Angles

Vertical Angle

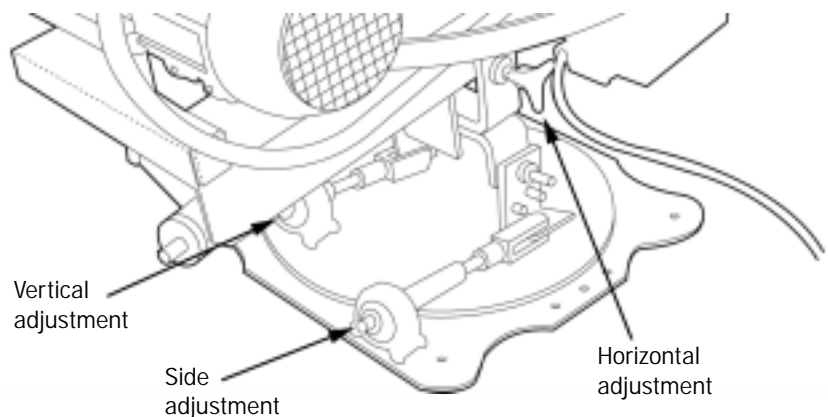
- Move the turnbuckle rod up or down to get the right angle.

Side Angle

1. Hold on to the machine and loosen the black handle on the bottom front of the base.
2. Tilt it either way and lock the handle once you reach the desired angle.

GMV 700 Skeet Series

Adjustment of Throwing Angles



Vertical and Side Angle

- Use the adjustment crank (GMV 750) on the vertical and side adjustments respectively to get the right angle.

Horizontal Angle

- Turn the elevation nut (GMV 741) to adjust the horizontal angle.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Do not load the machine with broken targets.

Clear the table and the elevator of any fragments of broken targets.

Loading the Machine

Fill the magazine with clay targets, except for the feed port stack.

1. Turn on the power.
2. Release a target to rotate the magazine
3. Shut off the power and fill the empty stack.

Spring Tension Adjustment

The factory trajectory setting, with a standard spring is 45 yards (42 m) for GMV 200 Trap Series, and 60 yards (55 m) for GMV 400 Skeet Series. The machine comes with four spacers: extra thin (2 mm), small (5 mm), medium (10 mm) and large (15 mm). The extra thin spacer is for fine tune adjustments.

When spacers are added, the distance of trajectory is increased. The length of trajectory will vary depending on the air density, wind, altitude and relative humidity, as well as the type of target used.

Do not add more spacers than the below combinations, as this will put undue stress on the spring.

Example:

Spacers	Standard Spring (yellow)		Optional Spring (black) UIT	
	Yards	Meters	Yards	Meters
Factory Settings for GMV 200 Series	45	42	64	59
1 small	50	46	68	62
1 medium	55	51	72	66
1 large	60	55	78	72
1 large + 1 small	65	60	82	75
1 large + 1 medium	70	64	86	79
1 large + 1 medium + 1 small	75	69	90	88

This is a general guide only.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Watch your fingers. Do not get caught.

Do not use more than four spacers for distance adjustments. (If greater distance is desired, change the spring.)

Adjustment of Target Distance

GMV 200 Trap, 400 Skeet and 500 Sporting Series

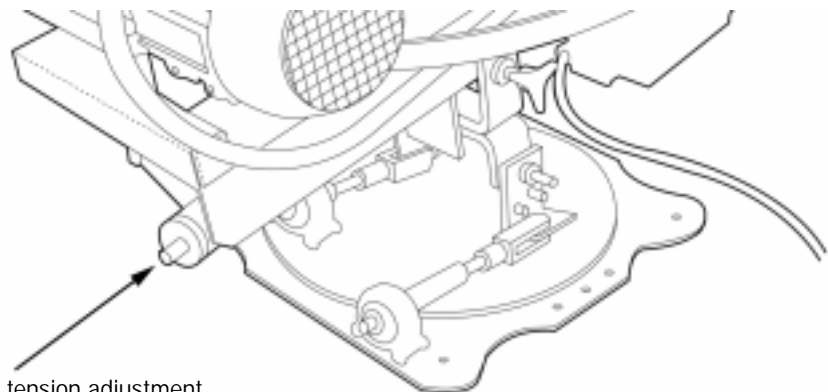
1. Insert the spring tension adjustment rod into the eyelet situated on the right side of the machine.
2. Pull out the eyelet, then place the spacers between the eyelet and the frame of the machine.



GMV 700 Skeet Series

The spring adjustment is variable between the values of the general guide (previous side).

- Use the adjustment crank (GMV750) to adjust the spring.



Spring tension adjustment

How the Machine Operates

- When the release button is pushed, a signal goes to the machine. The current to the electromagnet breaks, activating the clutch. The throwing arm releases.
- When the target is released, the microswitch engages the electromagnetic clutch, which is located between the motor and the worm gear. This causes the axle of the machine to rotate and the machine to re-cock.
- The target magazine rotates a twelfth of a turn and is then mechanically locked, when the machine is cocking.
- As the magazine rotates, the elevator moves up to receive the bottom target from the feed port stack. The rest of the targets in the feed port stack is held in place by the retainer wheel.
- When the throwing arm reaches the microswitch, the power supply to the electromagnetic clutch breaks. The electromagnet reconnects to the power supply.
- The machine is ready to throw a new target.

Release System for GMV 200 Trap Series

The release system consists of a release cord with a push button assembly connected to an outlet on the machine.

The machine can also be connected to a Radio Release System or a Voice Release System. The power supply for the release system is prepared for 24 volt D.C.

Release System for GMV 400/700 Skeet Series

24 volt with UIT Regulated Timer

The release system consists of a release cord with a timer and a push button assembly connected to an outlet on the machine.

The function of the release system can briefly be described as follows:

The delay is adjustable to between 0 to 5 seconds with a knob on the timer.

As soon as a button is pushed the indicator lights will light up, one on each house, according to which button is pushed. A low voltage pulse from the timer affects a relay in the machine.

24 volt or 115 volt without Timer

The release system consists of a release cord with a push button assembly connected to an outlet on the machine.

Wiring

Please follow the instructions concerning wiring of your machine found as an appendix in this manual. All GMV Super Star models has its own field wiring chart.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Do not load the machine with broken targets.

Clear the table and the elevator of any fragments of broken targets.

Beware of the throwing arm's speed when it releases.

General

Keep the machine and the area around clean and remove any target fragments and other dirt daily.

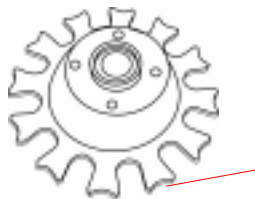
If the machine has not been properly shut of using the GMV safety release, hand release the throwing arm by standing behind the machine and carefully push the arm counter-clockwise.

Greasing

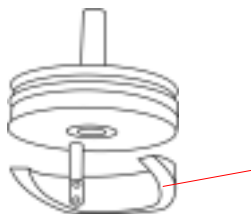
A low temperature grease is recommended for general greasing.



- Grease the grease nipples after 100,000 targets or once a year. There are four grease nipples on the GMV 200 Trap Series and two on the GMV 400 Skeet Series and GMV 500 Series.



- Grease the magazine index wheel (GMV 15) frequently. If the surface is dry, grease the twelve fingers on the wheel.



- Grease the elevator cam (GMV 65) frequently. If the surface is dry, grease it.

- The worm gears are filled with synthetic grease and do not need to be changed at any time, as long as there is no abnormal leakage.

DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Beware of the throwing arm's speed when it releases.

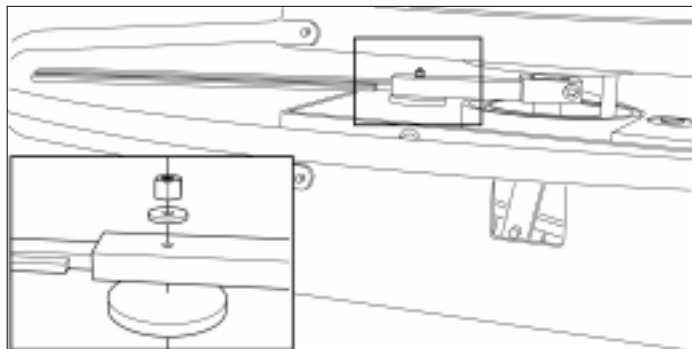
The Throwing Arm

Avoid using the machine without targets as this will result in greater stress on the throwing arm.

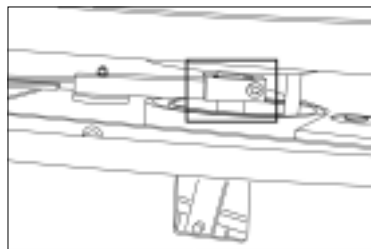
After extended usage, the throwing arm may become fatigued and the rubber molding worn. Check it often and replace when necessary.

Throwing Arm Replacement

1. Loosen the screw that holds the arm in the throwing arm holder.
2. Pull the throwing arm free.
3. Replace the throwing arm. Make sure the washer is on the underside of the arm holder.



4. Securely tighten the screw.
5. Adjust the height of the arm by loosening the Allen bolt on the throwing arm holder. (Do not adjust the height with the screws for table adjustment)



6. Move the arm up or down as required. The distance between the rubber on the throwing arm and the first rim of the clay target should be $\frac{1}{32}$ " (1 mm).



DANGER

Before entering the house of the thrower or the danger area:

- Turn the power off.
- Always turn the power off using the main safety release.
- Make sure the machine is uncocked.

Beware of the throwing arm's speed when it releases.

The Clutch

The electric magnetic clutch cocks the machine. The clutch is located between the main motor and the gearbox. The distance between the rotor and the stator should be between 0.012" (0.3 mm) to 0.016" (0.4 mm). If the distance is less than this, the machine may start windmilling. If the distance is greater than this, the machine will not cock.

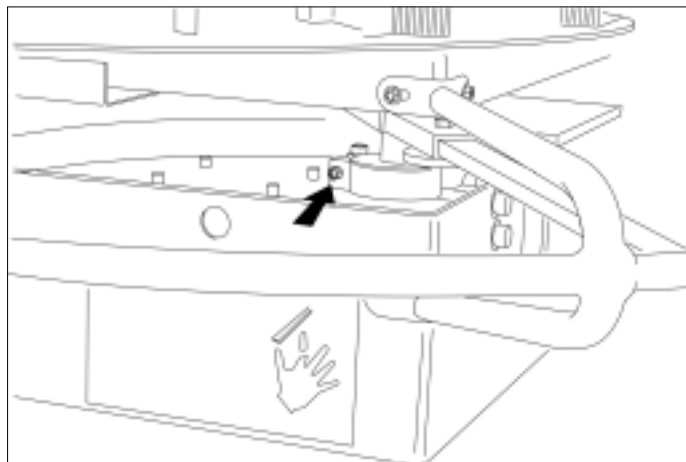
- To adjust the clutch, loosen the two setscrews situated on the gearbox-input shaft and then slide the clutch forward or backward until the correct distance is obtained. Use a feeler gauge to obtain the correct distance.



The Break

The break is situated on the throwing arm shaft. When the throwing arm is released it should not stop with a swivel. This will put a great strain on the throwing arm.

- To adjust the break, use an Allen key. Adjust the Allen bolt on the break, until the arm stops softly.



DANGER

Read the safety instructions before tampering with the machine.

If problems arise, the following may be of some help. If you need further assistance, please do not hesitate to contact your GMV Super Star dealer.

Problem	Cause	Solution
The machine does not start	No power	Check the power supply. If you have power, check the overload breaker situated on the side of the motor connector boxes. If there is no power, call an electrician.
No target releases	Faulty release cord	Check the release cord with an Ohm meter. If there is no resistance in one or more wires, cut approximately two feet of the cord on the push button end, then reconnect the push button.
	Faulty relay	Open the junction box on the machine and check the relay with the help of the release button on the relay. If no target is released replace the relay.
Two targets are released at the same time	The target retainer wheel O-rings are damaged	Check that the three O-rings on the target retainer wheel (inside the machine stacks) are not damaged. If the O-rings are damaged replace them.
	The retainer wheel is not turning	Remove the target magazine and the retainer wheel. Then grease the shaft. Reassemble the machine again.
	Different target sizes are used, or the targets may be wet	Remove the targets and make sure all the stacks are loaded with the same size targets.
Broken targets	Fragments of broken targets	Clear the throwing table and the elevator of any broken target fragments.
	The throwing arm is situated wrong	Adjust the throwing arm. (See section of the Throwing Arm)
	The throwing arm is bent	Replace the throwing arm.
	The target retainer wheels O-rings are damaged	Check the O-ring on the inside target retainer wheels (inside the magazine stacks). If it is damaged, replace it.

TROUBLESHOOTING

Problem	Cause	Solution
Broken targets	The target retainer wheel is turning	Remove the target magazine and the retainer wheel. Clean the retainer wheel hole as well as the shaft, then grease with a light oil. Reassemble.
	Different target sizes and makes are used, or the targets may be wet	Remove the targets and make sure to use only dry targets and the same make of targets.
	The throwing arm may be situated too low	Adjust the throwing arm. See section The Throwing Arm.
The machine is throwing targets non-stop	Faulty push button	Disconnect the release cord. If the machine stops throwing targets, change the push button switch.
	Faulty microswitch (does not apply on GMV 755 Skeet)	Lift the metal finger on the microswitch with e.g. a rubber band. If the machine does not stop throwing the targets, change the microswitch.
	Faulty clutch	To adjust the clutch take off the cover plate located on the worm gears neck. If the clutch is to function properly there should be a margin of 0.012" to 0.016" between the two parts of the clutch. To adjust loosen the two set screws situated on the input shaft on the gear box and adjust accordingly.



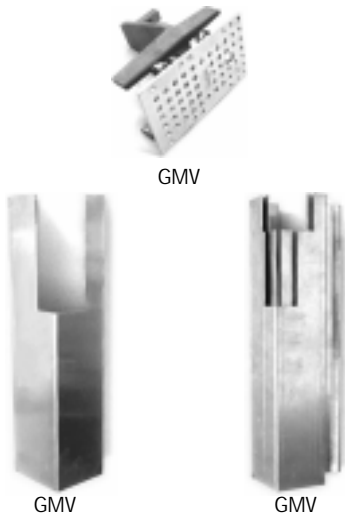
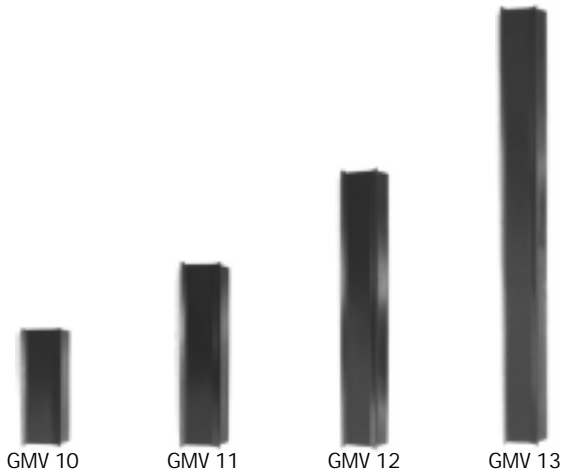
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Target Retainer	32
Throwing Table	33
Main Frame.....	35
Turntable	37
Base	39
Elevator	40
Throwing Arm	41
Motor	43
Spring	45
Electric Box	47
Safety Release	49
Miscellaneous	50



GMV 10 Assembly
GMV 11 Assembly
GMV 12 Assembly
GMV 13 Assembly



GMV 14



PARTS #	PARTS NAME	DESCRIPTION
GMV 10 Assembly	Complete magazine	250 Targets
GMV 11 Assembly	Complete magazine	400 Targets
GMV 12 Assembly	Complete magazine	700 Targets
GMV 13 Assembly	Complete magazine	900 Targets
GMV 10	Magazine structure, 1 pc	250 Targets
GMV 11	Magazine structure, 1 pc	400 Targets
GMV 12	Magazine structure, 1 pc	700 Targets
GMV 13	Magazine structure, 1 pc	900 Targets
	Self tapping bolt	M6SF-TT M5
GMV 14	Magazine base	
	Bolt	MC6S M8x20
	Washer	8.4x16
GMV	Elevator	
GMV	Sleeve midi	
GMV	Sleeve mini	



GMV 15



GMV 18



GMV 752



GMV 23



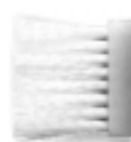
GMV 23A



GMV 19



GMV 19A



GMV 24

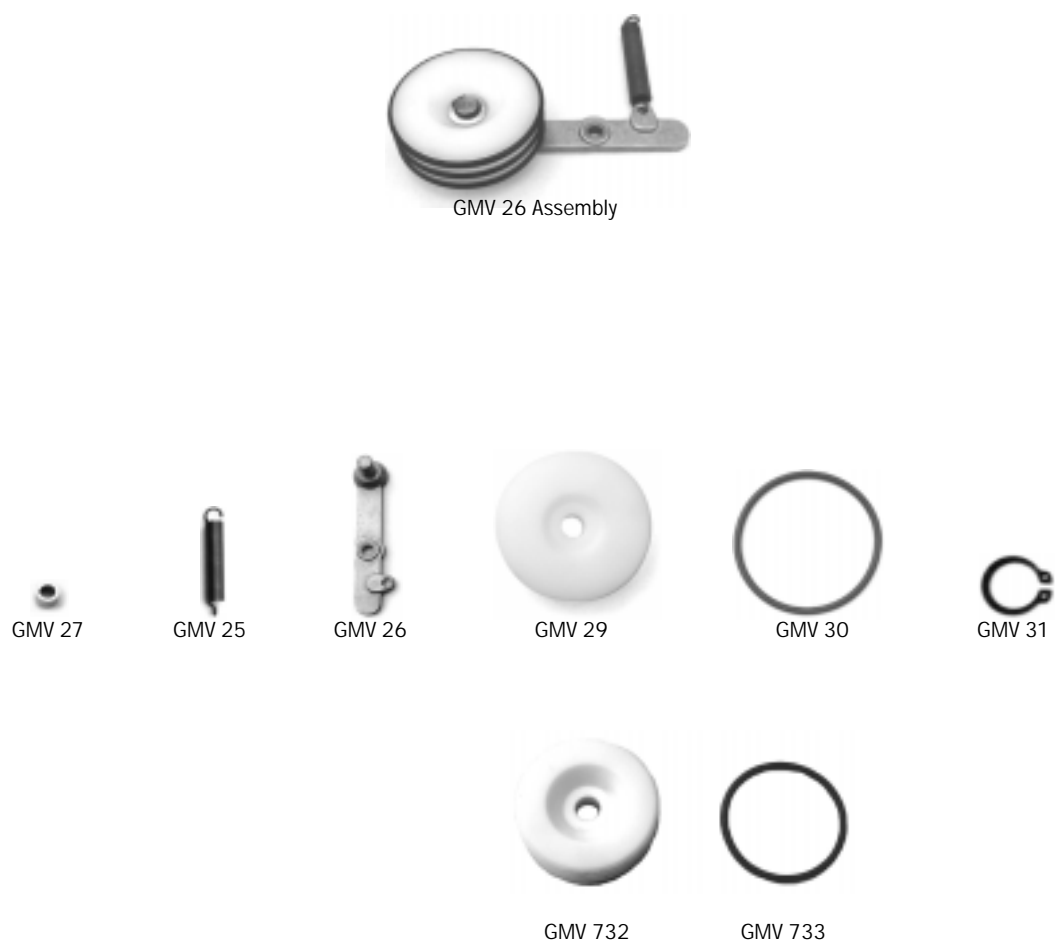


GMV 24A

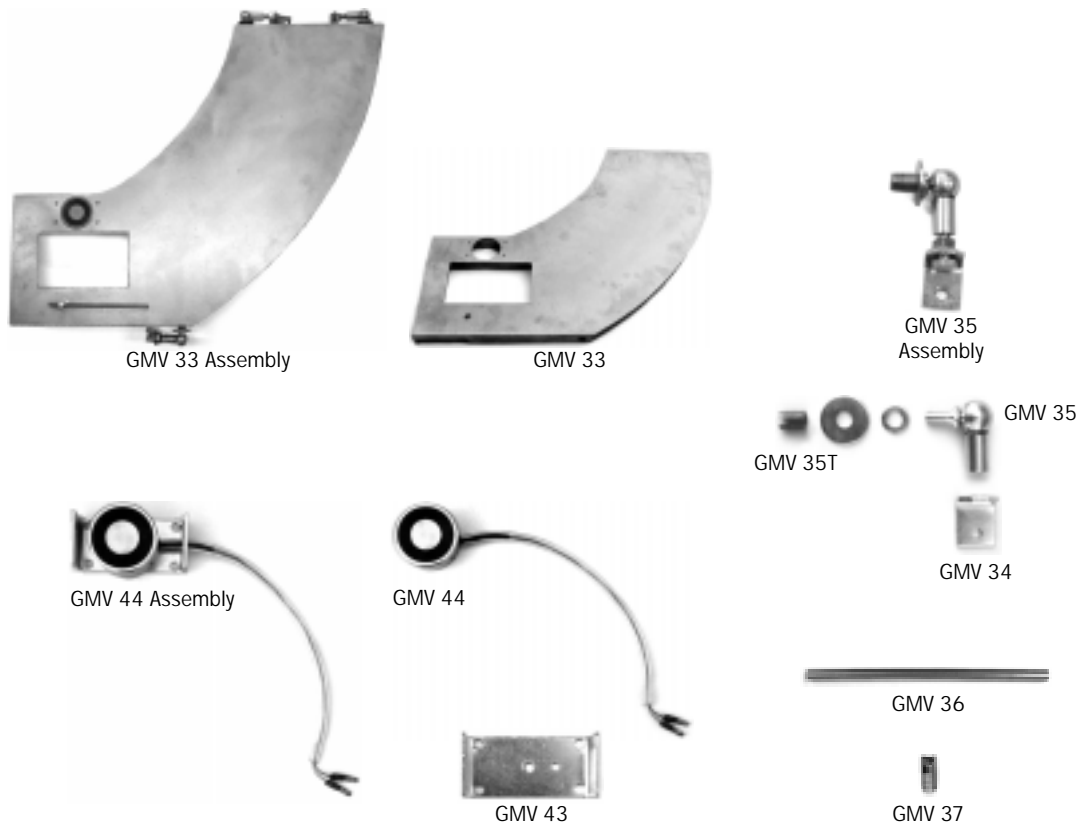
GMV
24B

PARTS #	PARTS NAME	DESCRIPTION
GMV 15	Magazine center	
GMV 18	Lock ring magazine center	SGA 30
GMV 19	Magazine shaft	
	Bolt	MC6S M8x35
	Washer	8.4x16
GMV 19A	Magazine plate	
GMV 23	Guide finger (target)	
GMV 23A	Guide finger (target)	
	Washer guide finger	
	Nut	M6
	Nut	M8
	Hex bolt	MC6S M6x35
	Screw	MF6S M6x16
GMV 24	Brush	
GMV 24A	Complete brush	
GMV 24B	Brush bracket	
GMV 752	Magazine ring, upper	

PARTS TARGET RETAINER

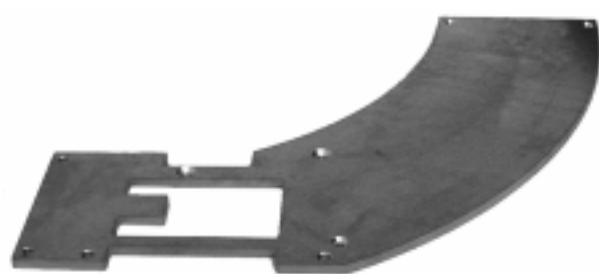


PARTS #	PARTS NAME	DESCRIPTION
GMV 26 Assembly	Complete target retainer	
GMV 25	Spring	2.5x16x100
GMV 26	Pivot arm target ret. wheel	
GMV 27	Pivot arm bushing	10.5x10
GMV 28	Pivot arm bushing	16x10
	Screw	MC6S M6x35
	Washer	BRB 16x28
GMV 29	Target retainer wheel	
GMV 30	O-ring target retainer wheel	85x5
GMV 31	Lock ring retainer wheel	SGA 15
GMV 732	Target retainer wheel	700 Series
GMV 733	O-ring target retainer wheel	70x5



PARTS #	PARTS NAME	DESCRIPTION
GMV 33 Assembly	Complete throwing table	200 & 400 Series
GMV 33	Throwing table	200 & 400 Series
GMV 35 Assembly	Complete link head	
GMV 34	Link head bracket	
GMV 35	Link head	M8
GMV 35T	T&S Threaded insert, link head	GDE M8
GMV 36	Target guide rail	
GMV 37	Target guide rail bracket	200 & 400 Series
GMV 44 Assembly	Complete electro magnet	
GMV 43	Electro magnet bracket	
GMV 44	Electro magnet	30x50

PARTS THROWING TABLE



GMV 701



GMV 702



GMV 728



GMV 729



GMV 730



GMV 731



GMV 703



GMV 704



GMV 709



GMV 710



GMV 711



GMV 708



GMV 708 Assembly



GMV 705



GMV 706



GMV 712

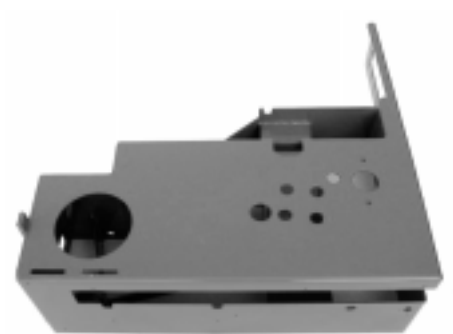


GMV 707

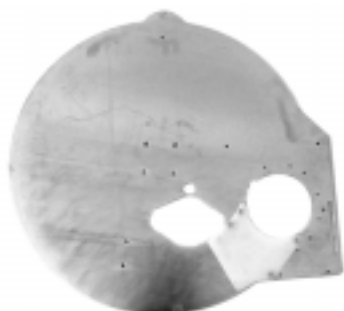


GMV 713

PARTS #	PARTS NAME	DESCRIPTION
GMV 701	Throwing table	700 Series
GMV 702	Target guide rail	700 Series
GMV 703	Electromagnet housing	
GMV 704	Electromagnet holder	
GMV 705	Trigger plate complete with bearing	6000-2RS
GMV 706	Skirt	
GMV 707	Spring, trigger	1,5x15x80
GMV 708 Assembly	Complete sear	
GMV 708	Sear	
GMV 709	Steelplate for buffer	
GMV 710	Buffer	
GMV 711	Distance	
GMV 712	Table distance	
GMV 713	Spring holder	
GMV 728	Cord to sensor	
GMV 729	Sensor	
GMV 730	Protective plate	
GMV 731	Holder for sensor	



GMV 32



GMV 20



GMV 22A



GMV 21



GMV 22



GMV 275



GMV 87



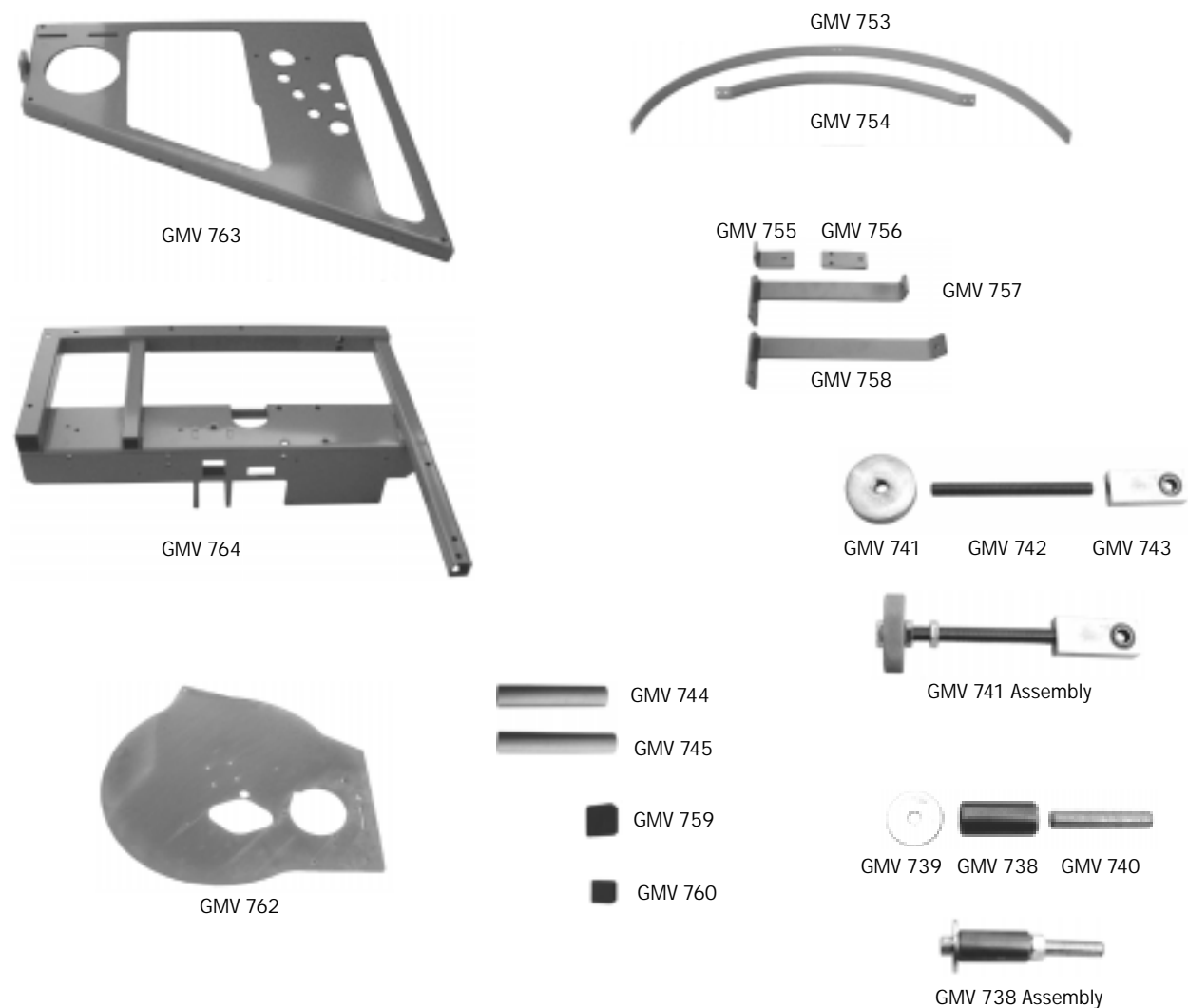
GMV 168



GMV 169

PARTS #	PARTS NAME	DESCRIPTION
GMV 20	Magazine plate	
GMV 21	Leaf spring bracket	
GMV 22	Leaf spring	
GMV 22A	Sliding plate	
	Bolt	MC6S M6x20
GMV 32	Main frame	200 & 400 series
GMV 87	Belt cover	
GMV 168	Safety guard	Front
GMV 169	Safety guard	Rear
GMV 275	Bushing	Bronze, 40x30

PARTS MAIN FRAME



PARTS #	PARTS NAME	DESCRIPTION
GMV 738 Assembly	Complete spring connection	
GMV 738	Main spring connection	
GMV 739	Washer	
GMV 740	Threaded rod main spring	
GMV 741 Assembly	Complete table adjustment	
GMV 741	Elevation nut	
GMV 742	Threaded rod	
GMV 743	Linkhead	
GMV 744	Main frame distance, short	
GMV 745	Main frame distance, long	
GMV 753	Safety guard	Front
GMV 754	Safety guard	Side
GMV 755	Safety guard bracket	
GMV 756	Safety guard bracket	
GMV 757	Safety guard bracket	
GMV 758	Safety guard bracket	
GMV 759	Plug	40x40
GMV 760	Plug	30x30
GMV 762	Magazine plate	700 Series
GMV 763	Main frame, upper	700 Series
GMV 764	Main frame, lower	700 Series

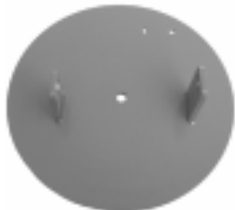


PARTS #	PARTS NAME	DESCRIPTION
GMV 60	Main bearing	CUFF 205
GMV 117	Base	200 Series
GMV 117A	Side mvmt box	
GMV 118	Turntable	
GMV 119	Bearing, turntable	30208GPZ
GMV 120	Seal, turntable	110x80x8
GMV 121	Spacer, turntable	110x40x5
GMV 122	Shaft nut, turntable	KM 12
GMV 124	Bearing, horisontal mvmt rod	GE12/c
GMV 124A	Bearing unit	
GMV 134 Assembly	Complete rod	
GMV 134	Rod mvmt horisontal	
GMV 139	Belt pulley, oscillating large	200 Series
GMV 140	Belt	A 36
GMV 141	Belt adjustment plate	
GMV 142	Belt pulley oscillating small	75/1

PARTS TURNTABLE



GMV 714



GMV 715



GMV 735



GMV 716



GMV 723



GMV 734



GMV 718



GMV 719



GMV 736



GMV 720

GMV 721



GMV 722



GMV 737

PARTS #	PARTS NAME	DESCRIPTION
GMV 714	Base	700 Series
GMV 715	Turntable	700 Series
GMV 716	Z-bracket	
GMV 717	U-bracket	
GMV 718	Threaded rod	
GMV 719	Fork	
GMV 720	Distance, height adjustment	
GMV 721	Distance, side adjustment	
GMV 722	Bearing unit	UCPA 203 TR
GMV 723	Bracket	
GMV 734	Belt pulley	63/2
GMV 735	Belt	A48
GMV 736	Belt pulley bracket	
GMV 737	Shaft	



GMV 126



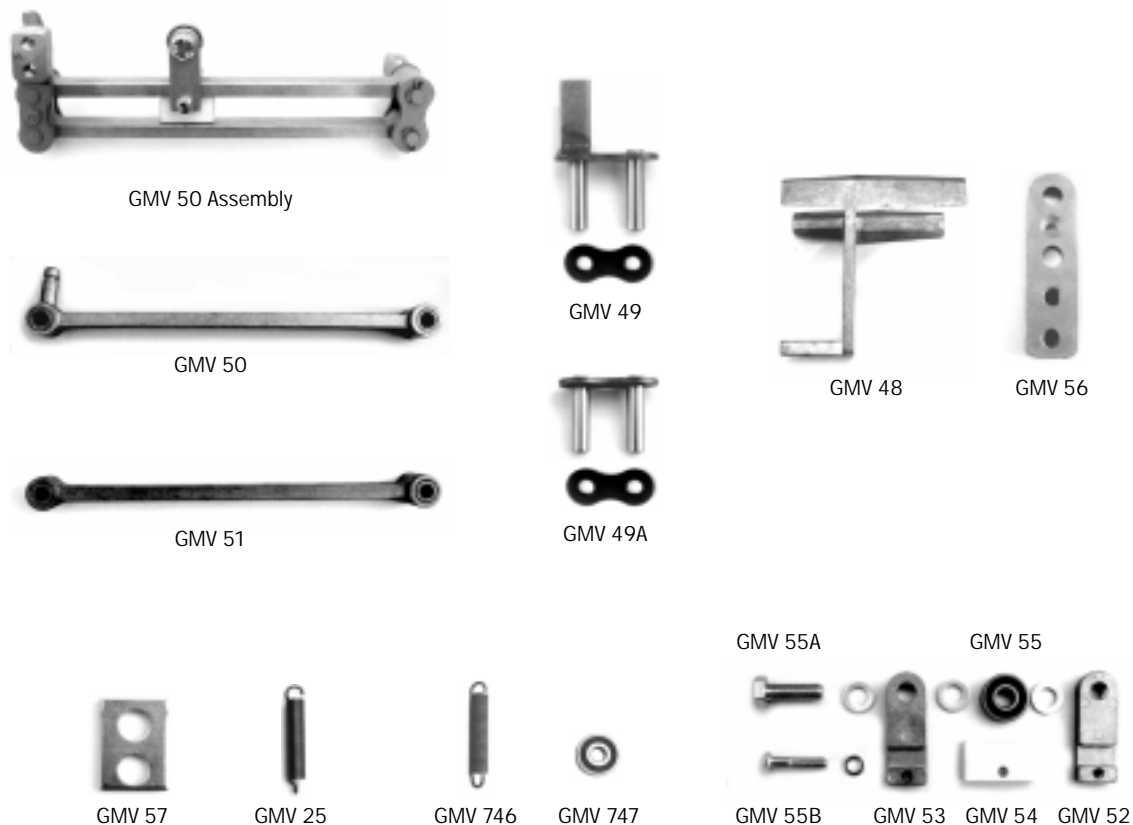
GMV 123



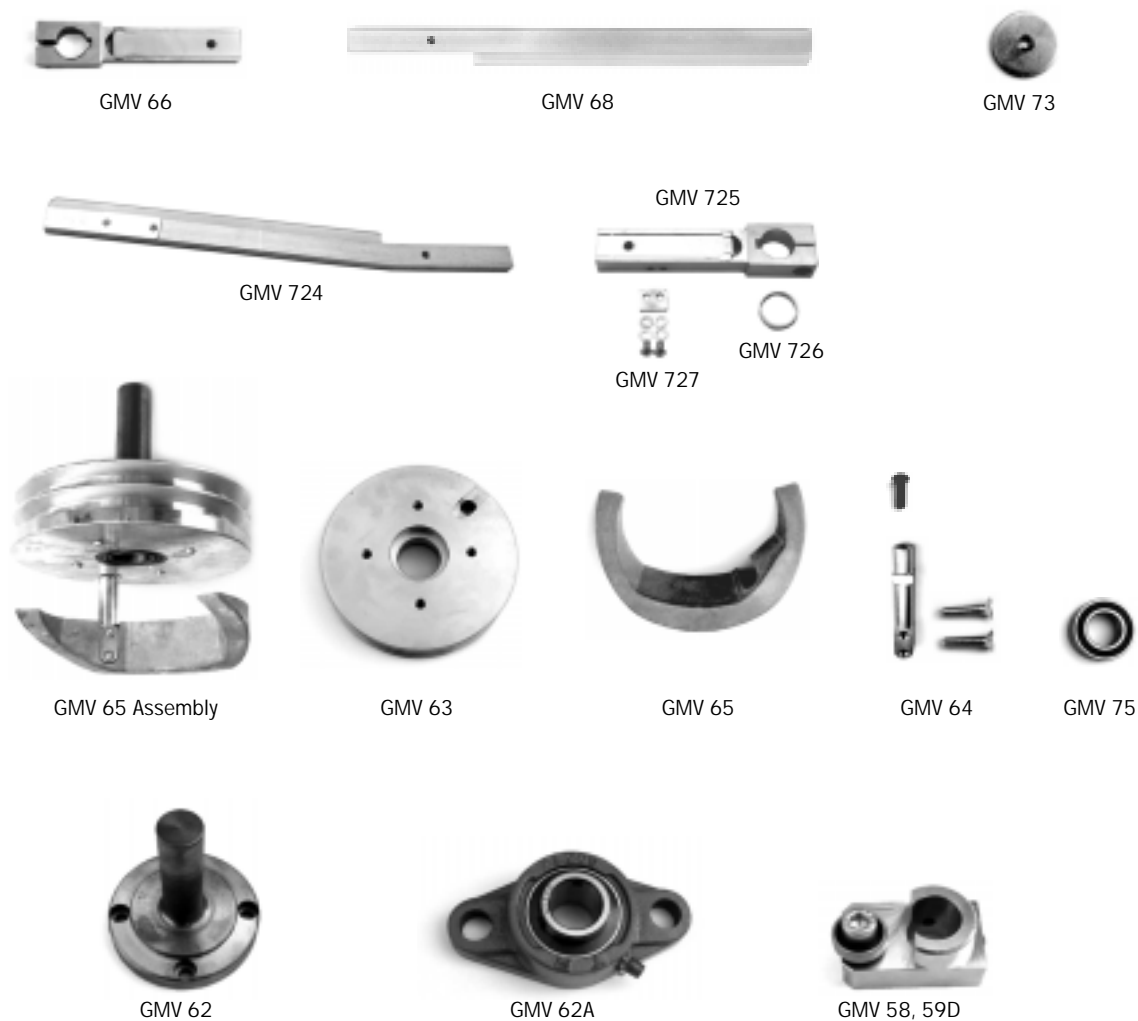
GMV 128A

PARTS #	PARTS NAME	DESCRIPTION
GMV 123	U-bracket	400 Series
GMV 126	Base	400 Series
GMV 128A	Turnbuckle	Skeet

PARTS ELEVATOR



PARTS #	PARTS NAME	DESCRIPTION
GMV 48	Elevator	
GMV 50 Assembly	Complete	
GMV 49	Elevator link front	
GMV 49A	Elevator link rear	
GMV 50	Upper elevator arm	
GMV 51	Lower elevator arm	
GMV 52	Inner bracket	
GMV 53	Outer bracket	
GMV 54	Plastix spacer	21x10x35
GMV 55	Bearing	6000-2RS
GMV 55A	Bolt M6S	M6x30
GMV 55B	Bolt M6S	M10x30
GMV 56	Elevator bracket, rear	
GMV 57	Elevator spacer	
GMV 25	Elevator spring	2.5x16x100
GMV 746	Elevator spring	2.5x15x80, 700 Series
GMV 747	Bearing	6200-RS, 700 Series



PARTS #	PARTS NAME	DESCRIPTION
GMV 58	Timing gear	200 - 500 Series
GMV 65 Assembly	Complete	
GMV 63	Belt pulley	150/2
	Hex bolt	MC6S M8x20
GMV 64	Cam shaft	
GMV 65	Cam	
	Screw	MPH M6x16
GMV 62	Timing gear shaft	
GMV 62A	Bearing	
GMV 66	Throwing arm holder	
	Allen bolt hardened	M8x25
GMV 68	Throwing arm	
GMV 73	Washer throwing arm	
GMV 75	Bearing main belt pulley	CUFF 205
GMV 724	Throwing arm	700 Series
GMV 725	Throwing arm holder	700 Series
GMV 726	Distance ring	700 Series
GMV 727	Stop bracket	700 Series
	Screw	
	Washer, 2	

PARTS THROWING ARM



GMV 74 Assembly



GMV 77 Assembly



GMV 69



GMV 71



GMV 61



GMV 60



GMV 70 70A 70B

PARTS #	PARTS NAME	DESCRIPTION
GMV 60	Main bearing	CUFF 205
GMV 61	Woodruff key	4x16
GMV 69	Assembly plate, main shaft	
GMV 70	One way bearing	AS 25
GMV 70A	One way bearing dust cover	
GMV 70B	One way bearing lock ring	
GMV 71	Break shoe	BO25x5.5
	Break shoe shaft	
GMV 74 Assembly	Complete assembly plate	
GMV 77 Assembly	Complete main shaft	



GMV 94, 95, 96



GMV 103



GMV 751



GMV 93



GMV 104



GMV 105



GMV 761



GMV 99, 100



GMV 106



GMV 97



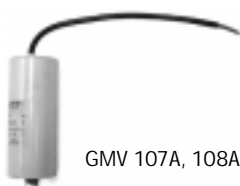
GMV 101,102

PARTS #	PARTS NAME	DESCRIPTION
GMV 93	Gearbox bracket	
GMV 94	Gearbox 81:1	Main
GMV 95	Gearbox 64:1	Earlier oscillating
GMV 96	Gearbox 41:1	Earlier main
GMV 97	Lid	For clutch adjustment
GMV 99	Belt pulley	118/2 (200-400Series)
GMV 100	Belt pulley	95/1 (GMV285T)
GMV 101	Belt for al w/o GMV285T	A56
GMV 102	Belt GMV285T	
GMV 103	Electro magnetic rotor	24V
GMV 104	Electro magnetic, clutch	
GMV 105	Nylon washer, clutch	
GMV 106	O-ring, clutch	69 2x5.7
GMV 751	Gearbox 81:1	700 Series
GMV 761	Gearbox bracket	700 Series

PARTS MOTOR



GMV 107, 108, 109



GMV 107A, 108A



GMV 107B, 107D



GMV 132 Assembly



GMV 132



GMV 131 Assembly



GMV 132A



GMV 130



GMV 124A



GMV 131



GMV 124



GMV 129T

PARTS #	PARTS NAME	DESCRIPTION
GMV 107	Motor	1800 RPM
GMV 107A	Capacitor	1800 RPM
GMV 107B	Autofuse	15 A
GMV 107D	Autofuse	8 A
GMV 108	Motor	3600 RPM
GMV 108A	Capacitor	3600 RPM
GMV 109	Motor	1200 RPM (side motion 1200 R)
GMV 124	Bearing, horizontal mvmt rod	GE 12/c
GMV 124A	Bearing unit	
GMV 129T	Base vertical motor	GMV296T
GMV 130	Crank pulley	Vertical (GMV296T)
GMV 131	Connecting rod	GMV296T
	Bult	M8
	Washer	M8
	Nut	M8
GMV 131 Assembly	Complete connecting rod	
GMV 132 Assembly	Complete motor	
GMV 132	Motor gearbox vertical	GMV296T



GMV 211



GMV 210



GMV 205



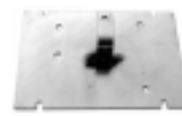
GMV 206



GMV 212



GMV 214



GMV 207



GMV 208 GMV 209



GMV 218



GMV 216



GMV 99

PARTS #	PARTS NAME	DESCRIPTION
GMV 99	Belt pulley	95/2 (200-400 Series)
GMV 205	Key	12V (GMV477)
GMV 206	Main on/off switch	
GMV 207	Electric mounting plate	
GMV 208	Battery clamp	Positive
GMV 209	Battery clamp	Negative
GMV 210	Gear box	
GMV 211	Motor	12V
GMV 212	Gear	Motor side and gearbox side
GMV 214	Fuse	30 A
GMV 216	Relay	
GMV 217	Connecing rod	
GMV 218	Fuse holder	

PARTS SPRING



GMV 86 Assembly



GMV 85



GMV 84



GMV 86



GMV 78



GMV 81, 83



GMV 79



GMV 80



GMV 89



GMV 90



GMV 91



GMV 92



GMV 88



GMV 181



GMV 275



GMV 88A



GMV 750

PARTS #	PARTS NAME	DESCRIPTION
GMV 78	Threaded rod main spring	M16x950
GMV 79	Main spring, end	
	Washer	M12 D113
	Nylock nut	M12
	Washer	C13 M12
GMV 80	Bearing spring end	6002-2RS
GMV 81	Spring	Yellow
GMV 83	Spring	Black
GMV 84	Washer, spring eyelet	
GMV 85	Eyelet	
GMV 86 Assembly	Complete spring connection	
GMV 86	Main spring connect. rear	
GMV 88	Spring lever bracket	
GMV 88A	Spring tension adjustment rod	
GMV 89	Spring spacer	Extra thin
GMV 90	Spring spacer	Small
GMV 91	Spring spacer	Medium
GMV 92	Spring spacer	Large
GMV 181	Bushing	40/50/5x30, bronze
GMV 275	Bushing	40x30, bronze
GMV 750	Adjustment crank	700 Series



GMV 137 Assembly



GMV 145A, 145B Assembly



GMV 144



GMV 145



GMV 156



GMV 157



GMV 146



GMV 147



GMV 155A



GMV 162



GMV 161



GMV 161B



GMV 148



GMV 154



GMV 162A



GMV 161A



GMV 161C

PARTS #	PARTS NAME	DESCRIPTION
GMV 137 Assembly	Complete box	
GMV 137	Connector box	200 Series
GMV 138	Cover	200 Series
GMV 144	Interrupter	
GMV 145	Bridge rectifier	Older model
GMV 145A Assembly	Complete bridge transformer	230 V/24 V, Europa
GMV 145B Assembly	Complete bridge transformer	115 V/24 V
GMV 146	Relay timing for safety release	200 Series
GMV 147	Safety release relay	200 Series
GMV 148	Main switch	200 Series
GMV 154	Wire connector	
GMV 155A	Skin top	
GMV 156	Push button assembly	Skeet
GMV 157	Push button assembly	Trap
GMV 161	Pull cord end	Skeet
GMV 161A	Pull cord end	Skeet, Europa
GMV 161B	Cord end	115V
GMV 161C	Cord end	230V, Europa
GMV 162	Pull cord outlet	Skeet
GMV 162A	Pull cord outlet	Skeet, Europa

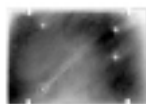
PARTS ELECTRIC BOX



GMV 113



GMV 114



GMV 114A



GMV 114B



GMV 143
GMV 143A



GMV 152



GMV 47



GMV 47A



GMV 150, 151



GMV 153



GMV 45



GMV 45A



GMV 155



GMV 155A



GMV 310



GMV 748



GMV 749

PARTS #	PARTS NAME	DESCRIPTION
GMV 45	Microswitch bracket	
GMV 45A	Threaded bracket	
GMV 47	Microswitch	
GMV 47A	Microswitch housing	
	Screw	MCS M3x30
	Nut	M3
GMV 113	Main electric box cover	
GMV 114	Main connector box	
GMV 114A	Assembly plate	Main electric box
GMV 114B	Plastic screws	Main electric box
GMV 143	Transformer	115V/24V
GMV 143A	Transformer	230V/24V, Europa
GMV 150	Relay	24V
GMV 151	Relay	115V
GMV 152	Relay socket	
GMV 153	Circuit board	
GMV 155	Rubberplugs	
GMV 155A	Skin top	
GMV 310	Counter	
GMV 748	Relay	24V
GMV 749	Relay socket	



GMV 149 Assembly



GMV 163 Assembly



GMV 164



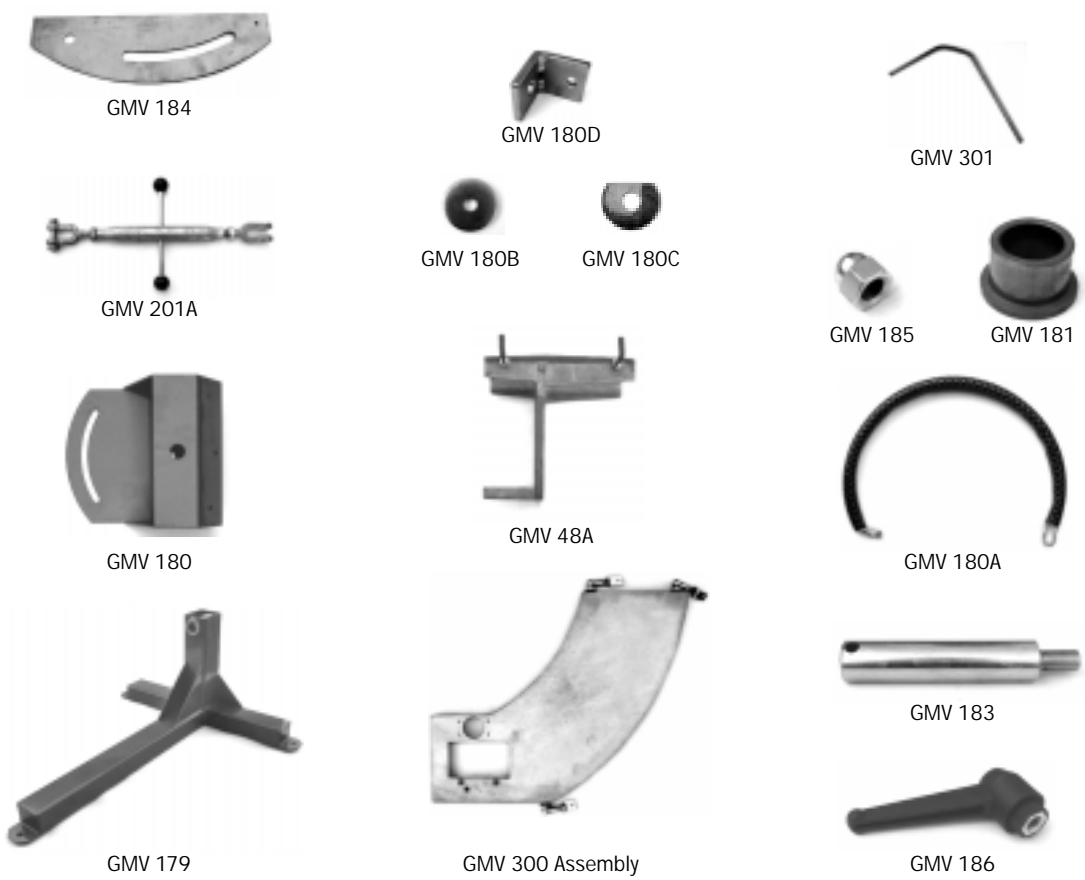
GMV 164A



GMV 149A, 149B

PARTS #	PARTS NAME	DESCRIPTION
GMV 149 Assembly	Complete	
GMV 149	Safety release box	Trap
GMV 149A	Block	NO
GMV 149B	Block	NC
GMV 163 Assembly	Complete	
GMV 163	Safety release box	Skeet
GMV 164	Safety release switch	Skeet
GMV 164A	Safety release push button	Skeet

PARTS MISCELLANEOUS



PARTS #	PARTS NAME	DESCRIPTION
GMV 48A	Elevator	
GMV 179	Main frame	
GMV 180	Swivel base	
GMV 180A	Safety chain	
GMV 180B	Bushing	
GMV 180C	Bushing	
GMV 180D	Bracket	
GMV 181	Bushing	Bronze, 40/50/5x30
GMV 183	Shaft	
GMV 184	Adjustment plate	
GMV 185	Nut	
GMV 186	Lock lever	
GMV 201A	Turnbuckle	
GMV 300 Assembly	Complete table	
GMV 301	Target guide rail	