

Read this manual carefully before installing, operating, servicing or repairing.

Working environment:

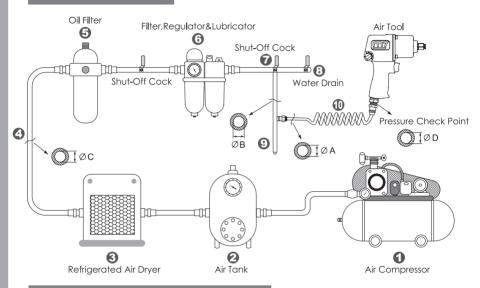
- 1. Using these tools in any potentially explosive environment is strictly prohibited.
- 2.It is always recommended that these types of tools must be operated when standing on a solid or firm location.
- 3. Always use these tools in a well ventilated area.
- 4.Slipping, stumbling and falling are the major causes of potential serious injury, therefore, a clean and clutter free surface in the working area before operating the tools is strongly recommended.

Air supply and connection requirements:

- 1.The maximum recommended air pressure during operation must not exceed 90 psi (6.3bar). Higher air pressure may create unsafe operating conditions for the tool and the user.
- 2.The compressed air should be cooled and have a water filter installed at the outlet end of the compressor. Even with a water filter installed, some water may still condense in the piping or hose and will enter the tool mechanism causing premature damage to the tool. Therefore, it is recommended to install an air filter-lubricator device somewhere between the tool and the compressor.
- 3. Always use an air compressor of the proper capacity to operate each tool.
- 4.Clean the hose with a blast of compressed air before connecting the hose to the air tool. This will prevent both moisture and dust inside the hose from entering the tool and causing possible rust or malfunction.



Ideal system connection:



Piping diameters and length requirement:

- ★The diameter ΦA required for the inlet pipe (1) is recommended on the specification table.
- ★The diameter ΦB required for the branch pipe (from to 0) should be 2 times as large as ΦA.

 ΦB = 2 x ΦA
- ★The diameter ΦC required for the primary air supply (from 1 to 3) should be 3 times as large as ΦA. ΦC = 3 x ΦA
- ★The length for the inlet pipe (1) should be less than 15 feet (4.5m).













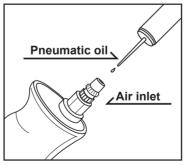


- This tool should only be used as a hand operated tool. It is powered by compressed air and is not insulated against electric shock.
- This tool is specially designed for tightening or loosening bolts or nuts. Any application or use of this tool other than what it is designed for is strictly prohibited.
- 3. Use only pneumatic impact sockets and accessories on this tool. Never use hand sockets or accessories.
- 4. High sound levels may cause hearing damage. Always wear hearing protection when operating this tool.
- Wearing eye/face protection can reduce the danger of high-speed socket being ejected from the tool, due to improper socket insertion during operation.
- User must wear proper clothing. Loose clothing, long hair, stings, straps, belts and jewelry should not be worn when operating this tool.
- 7. Before using these tools, make sure that all couplings and plugs are securely mounted. Air hoses which are under pressure will cause a whipping action when disconnecting, this can lead to serious injury!
- 8. Make certain to stand on a solid or firm location and keep body in well-balanced position while operating this tool
- Test run the tool to confirm the rotation direction before practical use. This will reduce the potential hazard due to unexpected rotating direction.
- 10.In case of tool insert failure, always keep hands away from rotating socket to reduce the risk of being injured, especially when working in confined spaces.
- 11.Always turn off the air supply and disconnect the air hose before changing socket or making adjustments on the tool.
- 12.Release the throttle trigger to avoid danger if there is a failure of energy supply and when connecting or disconnecting the air hose.
- 13.prolonged use will cause user fatigue. Periodic breaks are recommended for user safety.
- 14.It is recommended to stop operating the tool whenever the user experiences discomfort, tingling or pain during use.
- 15.Beware if the compressed air hose breaks unexpectedly, or is being connected or disconnected improperly. This whipping action may cause injury.
- 16. Always use caution when operating this tool to prevent injury.
- 17. Avoid storing this tool where it is subject to high humidity.



Maintenance:

- Before connecting the air hose to this tool or after operating, apply 4 or 5 drops of pneumatic oil into the air inlet and run it for several seconds, referring this operation to the attached illustration
- 2. Maintain this tool regularly by performing the same oiling application every 3 to 4 hours of operation.
- 3. Do not lubricate tools with flammable or volatile liquids. Use only the lubricant recommended by Mighty-Seven or authorized dealers. Any other lubricant will lead to reduce performance of the tool and permanent damage. Whenever any unauthorized lubricant is used by accident, flush it immediately with recommended pneumatic oil.
- 4. Follow all the recycling laws of waste disposal once this tool is no longer usable.



Regular maintenance

Item No.	Square Drive inch	Bolt Capacity	Torque Range	Max Torque	Free Speed R.P.M	Avg. Air Consumption	Air Pressure	Overall Length inch	Net Weight	Air Hose	Sound Pressure (Power) EN ISO 15744	Vibration level m/s²
Illustrator	P		<u>•</u>	©	№	■Þ≑	<u> </u>	-	(Ib/kg)	□ <u>†</u>	<i>?</i> >>)	(((O)))
NC-4217	1/2"	5/8"	150-320	400	7000	4.2	90	7-1/4"	5.6	3/8"	92.1	3.7
NC-2710	1/4"		7.4-29.5		11000	5.3	90	5-3/8"	1.76	3/8"	91.0	3.4
NC-8242	1"	1-9/16"	200-2000	2500	5000	15.9	90	14-17/32"	23.1	1/2"	100	6.4
NC-8242-8	B 1"	1-9/16"	200-2000	2500	5000	15.9	90	22-15/32"	26.2	1/2"	100	6.4
NC-8382	1"	1-9/16"	200-2000	2500	5000	15.9	90	14-17/32"	22.0	1/2"	100	6.4
NC-8382-8	8 1"	1-9/16"	200-2000	2500	5000	15.9	90	22-15/32"	27.5	1/2"	100	6.4

Uncertainty K=0.5a if a \leq 5 m/s² or K=0.4a if a>5 m/s²

Référence	Carré cond	Cap. Boulon	Couple recommandé	Couple maxi	Vitesse à vide	Cons. D'air moyenne	Pression	Longueur	Poids	Tuyau d'air	Niveau sonore DBA EN ISO 15744	Niveau de vibration
	inch	mm	Nm	Nm	R.P.M	L/min	bar	mm	kq	mm	dBA	m/s²
			•	©	No	■ Þ ≑	②	l ← l	(lb/kg)	<u>+</u>	?>>))	(((O))
NC-4217	1/2"	16	203-434	542	7000	119	6.3	184	2.5	10	92.1	3.7
NC-2710	1/4"		10-40		11000	150	6.3	136	0.8	10	91.0	3.4
NC-8242	1"	40	271-2710	3390	5000	450	6.3	370	10.5	13	100	6.4
NC-8242-8	3 1"	40	271-2710	3390	5000	450	6.3	570	11.9	13	100	6.4
NC-8382	1"	40	271-2710	3390	5000	450	6.3	370	11.0	13	100	6.4
NC-8382-8	3 1"	40	271-2710	3390	5000	450	6.3	570	12.5	13	100	6.4

Incertitude K=0.5a si a \leq 5m/s² ou K=0.4a si a>5m/s²

Artikel-Nr.		Bolzen Größe		bei Losen	Leerlauf Drehzahl	Luftverbrauch		Gesamtlänge	Nettogewicht	Luftschlauch	1	vibrationsniveat
	inch□	mm	Nm	Nm	R.P.M	L/min	bar	mm	kg	mm	dBA	m/s²
			•		No	■ Þ ≑	0	< _ ≠	(lb/kg)	□	<i>?</i> ›))	(((O))
NC-4217	1/2"	16	203-434	542	7000	119	6.3	184	2.5	10	92.1	3.7
NC-2710	1/4"		10-40		11000	150	6.3	136	0.8	10	91.0	3.4
NC-8242	1"	40	271-2710	3390	5000	450	6.3	370	10.5	13	100	6.4
NC-8242-8	3 1"	40	271-2710	3390	5000	450	6.3	570	11.9	13	100	6.4
NC-8382	1"	40	271-2710	3390	5000	450	6.3	370	11.0	13	100	6.4
NC-8382-8	3 1"	40	271-2710	3390	5000	450	6.3	570	12.5	13	100	6.4

Unsicherheit K = 0,5, wenn ein \leq 5 m/s² oder K = 0.4a, wenn a> 5 m / s²

Modelo	Matriz Cuadrada	Capacidad de Perno	Rango de Torque	Torque Máximo	Velocidad libre	Consumo de Aire Promedio	Presión de Aire	Longitud Total		de Aire		de vibración
	inch		Nm Nm	Nm Nm	R.P.M	L/min	bar (j)	mm	kg	<i>mm</i>	@\\\	(((O))
		⊖mmn _⊤			No	■ Þ 		1+1	[lb/kg]	(Assessed 1	8 11)	(((O))
NC-4217	1/2"	16	203-434	542	7000	119	6.3	184	2.5	10	92.1	3.7
NC-2710	1/4"		10-40		11000	150	6.3	136	0.8	10	91.0	3.4
NC-8242	1"	40	271-2710	3390	5000	450	6.3	370	10.5	13	100	6.4
NC-8242-	8 1"	40	271-2710	3390	5000	450	6.3	570	11.9	13	100	6.4
NC-8382	1"	40	271-2710	3390	5000	450	6.3	370	11.0	13	100	6.4
NC-8382-	8 1"	40	271-2710	3390	5000	450	6.3	570	12.5	13	100	6.4

variable K=0.5a si a \leq 5 m/s² ó K=0.4a si a>5 m/s²

	Encaixe Quadrado	Capacidade do parafuso	Faixa de Torque	Máximo	Velocidade Livre	Consumo de Ar	operação	Comprimento Total		Diámetro interno da mangueira		Nível de vibração
	polegada	polegada	kgfm	kgfm	R.P.M	L/min	PSI	mm	kg	polegada	dBA	m/s²
	P		•	O	No	■Þ		- L -+	lb/kg	□	<pre> ②)) </pre>	(((O))
NC-4217	1/2"	5/8"	20.7 a 44.2	55.3	7000	119	90	184	2.5	3/8"	92.1	3.7
NC-2710	1/4"		1.02 a 4.08		11000	150	90	136	0.8	1/4"	91.0	3.4
NC-8242	1"	1-9/16"	27.6 a 276.4	345.8	5000	450	90	370	10.5	1/2"	100	6.4
NC-8242-8	3 1"	1-9/16"	27.6 a 276.4	345.8	5000	450	90	570	11.9	1/2"	100	6.4
NC-8382	1"	1-9/16"	27.6 a 276.4	345.8	5000	450	90	370	11.0	1/2"	100	6.4
NC-8382-8	3 1"	1-9/16"	27.6 a 276.4	345.8	5000	450	90	570	12.5	1/2"	100	6.4

Incerteza K=0,05a se a \leq 5 m/s² ou K=0,4a se a > 5 m/s²

Арт No.	ПрисоеА. квадрат	вращательное усилие гайковерта	диапазон вращательного усилия	Макс. Усилие	Скорость свободн. Вращения	Среднее иотребл. Воздуха	Рабочее давление воздуха	Общая длина	Bec	Миним, Внутр. Диам. Шланга	Уровень шума DBA EN ISO 15744	Уровень Уровень вибрации
	дюйм		Нм	HM (P)	об/мин No	<i>л/мин</i> □ □•;	бар	MM	K2 B/kg	MM ±	<u>дб</u>	m/s²
NC-4217	1/2"	16	203-434	542	7000	119	6.3	184	2.5	10	92.1	3.7
NC-4217	1/4"		10-40	342	11000	150	6.3	136	0.8	10	91.0	3.4
NC-8242	1"	40	271-2710	3390	5000	450	6.3	370	10.5	13	100	6.4
NC-8242-8	3 1"	40	271-2710	3390	5000	450	6.3	570	11.9	13	100	6.4
NC-8382	1"	40	271-2710	3390	5000	450	6.3	370	11.0	13	100	6.4
NC-8382-8	3 1"	40	271-2710	3390	5000	450	6.3	570	12.5	13	100	6.4

Погрешность K=0.5a, если a ≤ 5 m/s² или K=0.4a если a>5 m/s²



EC DECLARATION OF CONFORMITY

Original Language

Serial Number: Please refer to the tool

Air Impact Wrench

Item No.: NC-4217 NC-2710 NC-8242 NC-8242-8 NC-8382 NC-8382-8

We declare under our own responsibility that the above machinery fulfils all the relevant provisions of Machinery Directive 2006/42/EC and its amendment and is manufactured and tested according to the following standards:

EN ISO 11148-6:2010 / EN ISO 15744:2008 / EN ISO 28927-2:2009

Declared in: Taichung, Taiwan Dated:2013/01/01

Signature

Joune Chen

Jonney Chen Declared by: QA Manager

Manufacturer:

Mighty Seven International Co., Ltd.

No. 70-25, Ching Qunag Rd., Wu-Jih Shiang, Taichung Hsien, 41466 Taiwan www.mighty-seven.com CE

Authorized contact, to compile the technical files:

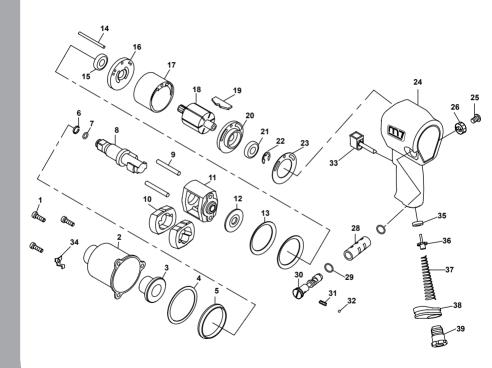
King Tony France

3 Rue des imprimeurs ZI République Nord 1.

86000 POITIERS FRANCE TEL: (+33) 5-49-30-30-90

E-MAIL: christian.aubineau@kingtony.eu

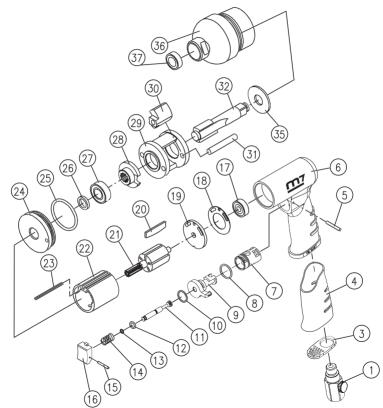




Part List Twin Hammer Type (E

		1	
NO.	INDEX NO.	DESCRIPTION	Q'TY
1	NC-4217S01	Screw (3pcs)	1set
2	NC-4217R02	Clutch Housing	1
3	NC-4217R03	Bushing	1
4	NC-4217R04	Front Gasket	1
5	NC-4217R05	Separator	1
6		Retaining Ring	1
7		O-Ring	1
8	NC-4217S08	Anvil Ass'y (06,07,08)	1set
9	NC-4217S09	Hammer Pin(2pcs)	1set
10	NC-4217S10	Hammer(2pcs)	1set
11	NC-4217R11	Hammer Cage	1
12	NC-4217R12	Washer	1
13	NC-4217S13	Motor Clamp Washer(2pcs)	1set
14	NC-4217R14	Cylinder Dowel	1
15	NC-4217R15	Ball Bearing	1
16	NC-4217R16	Front End Plate	1
17	NC-4217R17	Cylinder	1
18	NC-4217R18	Rotor	1
19	NC-4217S19	Rotor Balde(6pcs)	1set
20	NC-4217R20	Rear End Plate	1
21	NC-4217R21	Ball Bearing	1
22	NC-4217R22	Retainer	1
23	NC-4217R23	Rear Gasket	1
24	NC-4217R24	Motor Housing	1
25	NC-4217R25	Screw	1
26	NC-4217R26	Speed Regulator	1
28	NC-4217R28	Reverse Valve Bushing	1
29	NC-4217S29	O-Ring(2pcs)	1set
30	NC-4217R30	Reverse Valve Knob	1
31	NC-4217R31	Spring	1
32	NC-4217R32	Steel Ball	1
33	NC-4217R33	Trigger	1
34	NC-4217R34	Trrigger Retainer	1
35	NC-4217R35	Throttle Valve Seat	1
36	NC-4217R36	Valve Stem	1
37	NC-4217R37	Conical Spring	1
38	NC-4217R38	Exhaust Deflector	1
39	NC-4217R39	Air Inlet Bushing	1





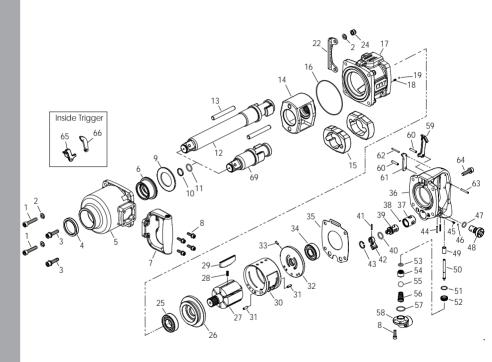
Part List Twin Dog type (E

NC-2710

		-	
No	Part No	Description	Q'ty
1	NC-2710P01	Air Inlet	1
3	NC-2710P03	Exhaust Deflector	1
4	NC-2710P04	Gasket	1
5	NC-2710P05	Pin	1
6	NC-2710P06	Motor Housing	1
7	NC-2710P07	Reverse Bushing	1
8	NC-2710P08	O-Ring	1
9	NC-2710P09	Reverse Valve	1
10	NC-2710P10	O-Ring	1
11	NC-2710P11	Throttle Valve	1
12	NC-2710P12	O-Ring	1
13	NC-2710P13	O-Ring	1
14	NC-2710P14	Spring	1
15	NC-2710P15	Pin	1
16	NC-2710P16	Trigger	1
17	NC-2710P17	Ball Bearing	1
18	NC-2710P18	Gasket	1

No	Part No	Description	Q'ty
19	NC-2710P19	Rear Eng Plate	1
20	NC-2710T20	Rotor Blade (5pcs)	1 SET
21	NC-2710P21	Rotor	1
22	NC-2710P22	Cylinder	1
23	NC-2710P23	Spring Pin	1
24	NC-2710P24	Front Plate	1
25	NC-2710P25	O-Ring	1
26	NC-2710P26	Oil Seal	1
27	NC-2710P27	Ball Bearing	1
28	NC-2710P28	Cam	1
29	NC-2710P29	Hammer Cage	1
30	NC-2710T30	Hammer Dog (2pcs)	1 SET
31	NC-2710T31	Hammer Pin (2pcs)	1 SET
32	NC-2710P32	Anvil	1
35	NC-2710P35	Washer	1
36	NC-2710P36	Hammer Case	1
37	NC-2710P37	Cover	1



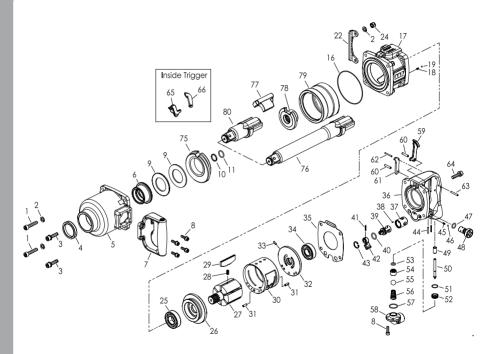


Part List Twin Hammer Type CE

NO.	INDEX NO.	DESCRIPTION	Q'TY
1	NC-8242T01	Screw (2PCS)	1SET
2	NC-8242T02	Spring Washer (6PCS)	1SET
3	NC-8242T03	Screw Wahser (2PCS)	1SET
4	NC-8242P04	Seal	1
5	NC-8242P05	Hammer Case	1
6	NC-8242P06	Anvil Bushing	1
7	NC-8242P07	Side Spade Handle	1
8	NC-8242T08	Screw Wahser (8PCS)	1SET
9	NC-8242P09	Hammer Washer	1
10	NC-8242P10	Socket Retainer	1
11	NC-8242P11	O-Ring	1
12	NC-8242T12	Anvil Assembly (10.11.12) (For NC-8242-8 With 8" Extended)	1SET
13	NC-8242T13	Hammer Pin (2PCS)	1SET
14	NC-8242P14	Hammer Cage	1
15	NC-8242T15	Hammer Dog (2PCS)	1SET
16	NC-8242P16	O-Ring	1
17	NC-8242T17	Motor Housing Assembly (17.18.19)	1SET
18		Spring	1
19		Steel Ball	1
22	NC-8242P22	Housing Protector	1
24	NC-8242T24	Lock Nut (4PCS)	1SET
25	NC-8242P25	Ball Bearing	1
26	NC-8242P26	Front End Plate	1
27	NC-8242P27	Rotor	1
28	NC-8242T28	Spring (6PCS)	1SET
29	NC-8242T29	Rotor Blade (6PCS)	1SET
30	NC-8242P30	Cylinder	1
31	NC-8242T31	Spring Pin (2PCS)	1SET
32	NC-8242P32	Rear End Plate	1
33	NC-8242P33	Spring Pin	1
34	NC-8242P34	Ball Bearing	1
35	NC-8242P35	Gasket	1
36	NC-8242T36	Trigger Handle Assembly (36.37.49)	1SET

NO.	INDEX NO.	DESCRIPTION	Q'TY
37		Bushing	1
38	NC-8242P38	Pin	1
39	NC-8242P39	Reverse Valve	1
40	NC-8242P40	O-Ring	1
41	NC-8242P41	Spring Pin	1
42	NC-8242P42	Reverse Valve	1
43	NC-8242P43	Snap Ring	1
44	NC-8242T44	Spring Pin (2PCS)	1SET
45	NC-8242P45	Spring	1
46	NC-8242P46	Steel Ball	1
47	NC-8242P47	O-Ring	1
48	NC-8242P48	Air Regulator	1
49		Bushing	1
50	NC-8242P50	Valve Tappet	1
51	NC-8242P51	O-Ring	1
52	NC-8242P52	Throttle Bushing	1
53	NC-8242P53	O-Ring	1
54	NC-8242P54	Valve Stem	1
55	NC-8242P55	Nylon Ball	1
56	NC-8242P56	Spring	1
57	NC-8242P57	O-Ring	1
58	NC-8242P58	Angle Inlet Bushing	1
59	NC-8242P59	Outside Trigger	1
60	NC-8242T60	Spring Pin (2PCS)	1SET
61	NC-8242P61	Plug (For Outside Trigger)	1
62	NC-8242P62	Spring Pin	1
63	NC-8242P63	Spring Pin	1
64	NC-8242T64	Screw Washer (4PCS)	1SET
65	NC-8242P65	Inside Trigger	1
66	NC-8242P66	Plug (For Inside Trigger)	1
69	NC-8242T69	Anvil Assembly (10.11.69) (For NC-8242)	1SET





Part List Pin Less Type CE

NO.	INDEX NO.	DESCRIPTION	Q'TY
1	NC-8382T01	Screw (2PCS)	1SET
2	NC-8382T02	Spring Washer (6PCS)	1SET
3	NC-8382T03	Screw Wahser (2PCS)	1SET
4	NC-8382P04	Seal	1
5	NC-8382P05	Hammer Case	1
6	NC-8382P06	Anvil Bushing	1
7	NC-8382P07	Side Spade Handle	1
8	NC-8382T08	Screw Wahser (8PCS)	1SET
9	NC-8382T09	Hammer Washer (2PCS)	1SET
10	NC-8382T10	Socket Retainer	1
11	NC-8382T11	O-Ring	1
16	NC-8382P16	O-Ring	1
17	NC-8382T17	Motor Housing Assembly (17.18.19)	1SET
18		Spring	1
19		Steel Ball	1
22	NC-8382P22	Housing Protector	1
24	NC-8382T24	Lock Nut (4PCS)	1SET
25	NC-8382P25	Ball Bearing	1
26	NC-8382P26	Front End Plate	1
27	NC-8382P27	Rotor	1
28	NC-8382T28	Spring (6PCS)	1SET
29	NC-8382T29	Rotor Blade (6PCS)	1SET
30	NC-8382P30	Cylinder	1
31	NC-8382T31	Spring Pin (2PCS)	1SET
32	NC-8382P32	Rear End Plate	1
33	NC-8382P33	Spring Pin	1
34	NC-8382P34	Ball Bearing	1
35	NC-8382P35	Gasket	1
36	NC-8382T36	Trigger Handle Assembly(36.37.49)	1SET
37	-	Bushing	1
38	NC-8382P38	Pin	1
39	NC-8382P39	Reverse Valve	1
40	NC-8382P40	O-Ring	1

NO.	INDEX NO.	DESCRIPTION	Q'TY	
41	NC-8382P41	Spring Pin	1	
42	NC-8382P42	Reverse Valve	1	
43	NC-8382P43	Snap Ring	1	
44	NC-8382T44	Spring Pin (2PCS)	1SET	
45	NC-8382P45	Spring	1	
46	NC-8382P46	Steel Ball	1	
47	NC-8382P47	O-Ring	1	
48	NC-8382P48	Air Regulator	1	
49	-	Bushing	1	
50	NC-8382P50	Valve Tappet	1	
51	NC-8382P51	O-Ring	1	
52	NC-8382P52	Throttle Bushing	1	
53	NC-8382P53	O-Ring	1	
54	NC-8382P54	Valve Stem	1	
55	NC-8382P55	Nylon Ball	1	
56	NC-8382P56	Spring	1	
57	NC-8382P57	O-Ring	1	
58	NC-8382P58	Angle Inlet Bushing	1	
59	NC-8382P59	Outside Trigger	1	
60	NC-8382T60	Spring Pin (2PCS)	1SET	
61	NC-8382P61	Plug (For Outside Trigger)	1	
62	NC-8382P62	Spring Pin	1	
63	NC-8382P63	Spring Pin	1	
64	NC-8382T64	Screw Washer (4PCS)	1SET	
65	NC-8382P65	Inside Trigger	1	
66	NC-8382P66	Plug (For Inside Trigger)	1	
75	NC-8382P75	Cage Bush	1	
76	NC-8382T76	Anvil Assembly (10.11.76) (For NC-8382-8 With 8" Extended)	1SET	
77	NC-8382P77	Hammer Dog	1	
78	NC-8382P78	Cam	1	
79	NC-8382P79	Hammer Cage	1	
80	NC-8382T80	Anvil Assembly (10.11.80) (For NC-8382)	1SET	

Warranty Card

Manufacturer's limited warranty

Mighty Seven International CO., LTD. offers limited warranty to the products manufactured by Mighty Seven and sold by its worldwide authorized dealers. The limited warranty only applies to products that are defective in material and workmanship and does not apply to products which have been abused, misused, modified, or repaired by someone other than Mighty Seven or its authorized service representatives. If there is a defective product of Mighty Seven, please send it prepaid to the dealer where it was purchased from along with address and contact information. Repairs or replacements are warranted as described above; otherwise, the service of repairs or replacements will be charged.

Please Keep This card For Warranty

Date of Purchase :	Model No. :
Warranty Expiration Date :	Serial No. :

Distributor Stamp





Date of Purchase :	Model No. :				
Warranty Expiration Date :	Serial No. :				
Name :					
Company Name :					
Address :					
Tel.: Fax.:					
E-mail :					
Type of Business :					
☐ Agriculture	Paint & Body Repair				
General Auto Repair	☐ Public Work/Gov. Utilities				
Tire	☐ Factory				
☐ Truck Maintenance/Repair	☐ Home Use				
Car Maker	Other				
Specification of compressor used :					
Horsepower:	Tank Size (liter/gal) :				
5 7,5 10 15+	75,7(20) 227,1(60) 302,8(80) 454,2(120)				
other	other				