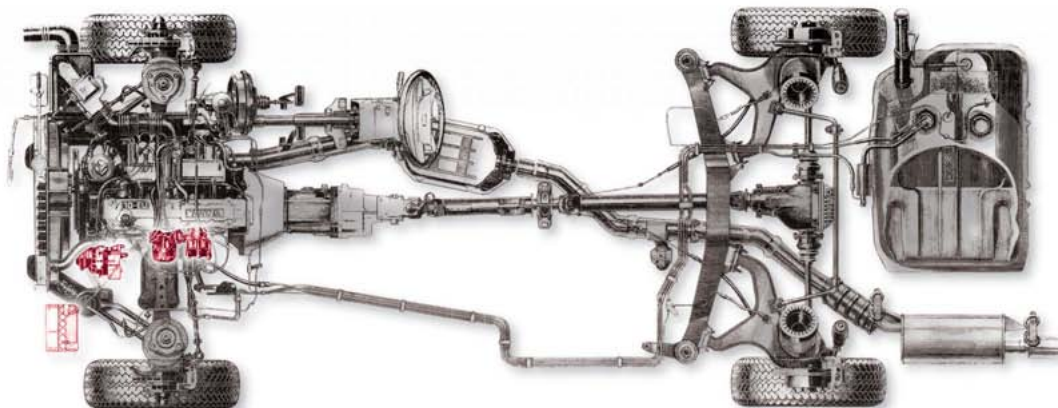


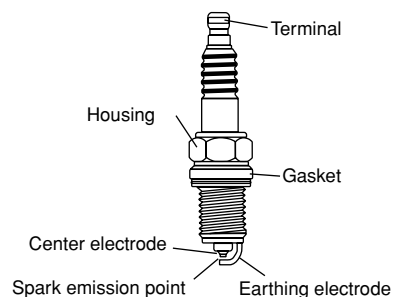
# Electric System Mechanism



MECHANISM 1

## Spark plug

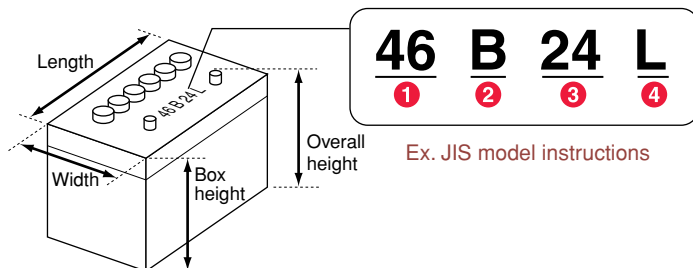
The spark plug is designed to emit a high voltage spark directly into the combustion chamber. It is installed by screwing into the cylinder head. The high voltage enters the spark plug via the top terminal and is transmitted through a ceramic insulator by the central electrode. As the current is grounded to an earthing electrode it creates a spark crossing the "gap". Sparks are discharged from the electrodes in a variety of shapes for different uses and functions.



MECHANISM 2

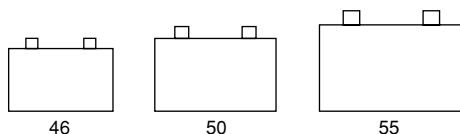
## Battery

As the model of the battery is placed on the topside, it is easy to find out information like capacity, position and size of the terminal polarity, etc. Knowing and understanding these rules makes it easy when selecting a correct battery for each vehicle.



① Capacity rank

The performance of the battery is shown here. (Battery capacity and start performance) The higher the numerical value, the higher the capacity, however, there is no "recommended specific" number. For a simple setting to follow (Up to 50: Will produce 2; Over 50: Will produce 5).



② Battery size (JIS standards: Classification is worked out by Width x Box height)

Sizes follow symbols from A → H and get larger in that order.

Symbol	Width	Box height
A	127	162
B	129 (127)	203
D	173	204
E	176	213
F	182	213
G	222	213
H	278	220

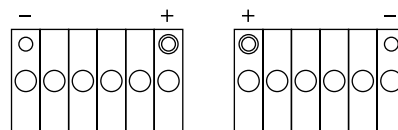
(Unit: mm)

③ Battery length measurements (approx. cm)

The overall battery measurement is shown (approx. cm)  
Ex.: 46B24L (approx. 24cm)

④ Battery terminal position

Positive terminal position is shown. On the "R" Type, the positive terminal is on the far right side, while on the "L" type, the positive terminal is on the far left side.



MECHANISM 3

## Alternator

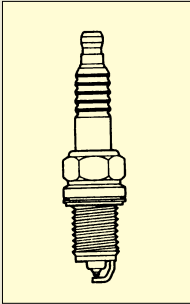
This is a generator that produces electricity while the engine is running. The first type of generators produced electricity in the DC form, however, nowadays they are more stable, producing electricity in the AC form.

ELECTRIC SYSTEM

# Inspection, Cleaning and Replacing Spark Plug

## 1 Removing Spark Plug Leads

## 2 Removing Spark Plug



### ●3/8"sq. SPARK PLUG SOCKET



B3A-16SP

B3A-16P

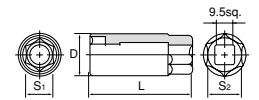


B3A-14SP

### SPARK PLUG SOCKET

No.	S <sub>1</sub> (6pt.)	S <sub>2</sub>	D	L	Spark Plug (Type)		▽g	sq.	⊞
					NGK	ND			
B3A-14SP	14	—	18.5	62			60	3/8"	5
-16SP	16	—	20	65			65		5
B3A-13P	13	17	18	56	ER	r	72	3/8"	5
-16P	16	17	21.5	62	BC,C	PQ,U	100		5
-18P	18	19	23.5	62	D	X	130		5
-20.8P	20.8	24	26.5	62	B	W	170		5

- With Magnet for using in narrow spaces.
- \* B3A-16SP is thin wall type for use on 4-valve engine of Mitsubishi mini cars.
- The B3A-14SP is a socket designed to be compatible with the new Nissan engines HR15DE, MR18DE, MR20DE types.



- Do not place a wrench around the outside of the B3A-14SP and rotate it.

### ●1/2"sq. SPARK PLUG SOCKET



B4A-16P

### SPARK PLUG SOCKET

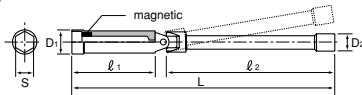
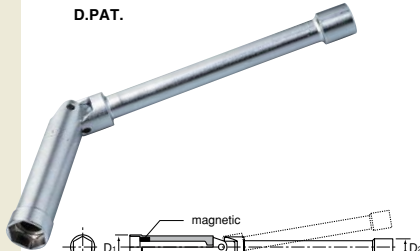
No.	S <sub>1</sub> (6pt.)	S <sub>2</sub>	D	L	Spark Plug (Type)		▽g	sq.	⊞
					NGK	ND			
B4A-16P	16	—	22	63.5	BC,C	PQ,U	110	12.7	5
-19P	19	—	26.5	65	BM	WM	170		5
-20.8P	20.8	24	26.5	65	B	W	160		5

- With Magnet for using in narrow spaces.
- \* B35P-19H for changing spark plugs on chain saws, mowing machines, small generators, etc.



### ●3/8"sq. UNIVERSAL SPARK PLUG WRENCH

D.PAT.



### UNIVERSAL SPARK PLUG WRENCH

No.	S (6pt.)	D <sub>1</sub>	D <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	L	▽g	⊞
B3F-14SP	14	18.5	17	73	111	192	270	1
-16SP	16	20	18	73	148	230	300	1

#### Purpose

- Removing/installing spark plug.

#### Application

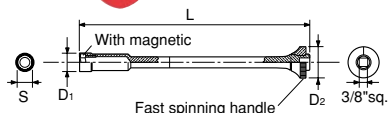
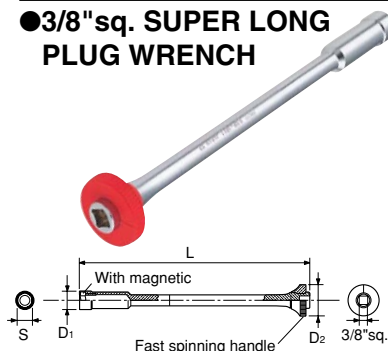
- Mini-van and wagon: effective for use on cars having small clearance between engine and cowl panel. Toyota's Ipsum, Hiace Rejas, Prius, Noa; Honda's Odyssey, and other models.
- Usable for replacing spark plugs on other models.

#### Features

- No falling of the socket from the extension bar during operation as the 16mm plug socket and the bar are integrated into one piece of tool.
- Easy insertion into plug hole with universal joint used in the middle of the wrench. (the maximum flexible angle : 90 degrees).
- For specially thin socket, usable on 4-valve engine of Mitsubishi.



### ●3/8"sq. SUPER LONG PLUG WRENCH



### SUPER LONG PLUG WRENCH

No.	S (6pt.)	D <sub>1</sub>	D <sub>2</sub>	L	▽g	⊞
B3P-16LL	16	20	35	250	250	5

#### Purpose

- Use for spark plug removal/installation.

#### Characteristics

- This is a plug socket, extension bar, and quick spinner all in one new type of plug wrench.
- The operation is improved by eliminating time wastage and troublesome tool retrieval. The fast handle movement when using the ratchet (quick spin) also brings a positive effect.
- As the socket section is of a quite thick design, its uses are wide. (It can also be used on Mitsubishi light weight 4-valve engines).
- Dropping spark plugs is prevented as the tool is magnetic.
- The tightening angle is determined by a line mark on the side of the quick spinner.

