OWNER'S MANUAL

PLEASE READ CAREFULLY BEFORE
USING THIS PRODUCT.

MXN ®

7" DIGITAL TFT LCD
ALL ROUND VISION MONITOR

Model: MXN-P7D

Design and specifications are subject to change without notice.

• I • N • D • E • X •

▣ PACKAGE CONTENTS

MONITOR

SUNVISOR

MANUAL

STAND BRACKET
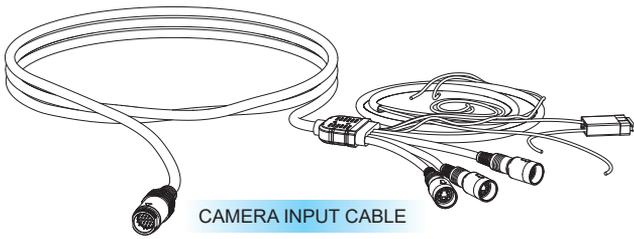
CAMERA INPUT CABLE

CABLE CLIP

BRACKET SCREWS

ITEM	Q'TY
MONITOR	1
SUNVISOR	1
STAND BRACKET	1
BRACKET SCREW	3
CABLE CLIP	2
CAMERA INPUT CABLE	1
MANUAL	1

▣ OPERATION

VIEW AREA
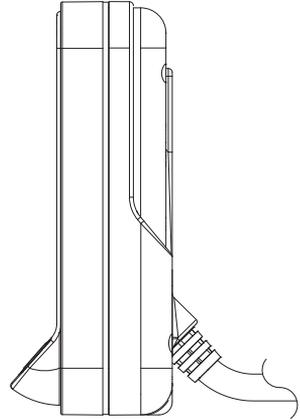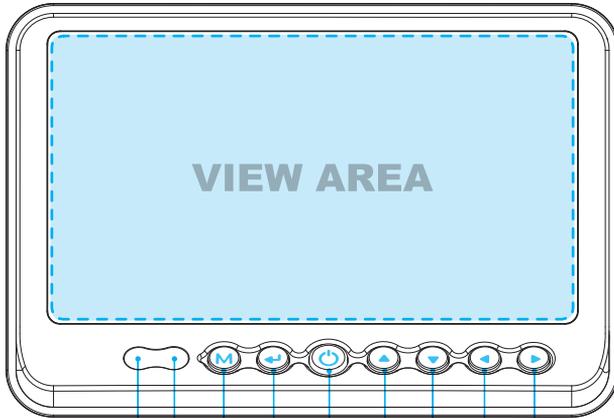
RIGHT Press [**RIGHT**] button to adjust monitor volume.
Use [**RIGHT**] button to change **OSD** setting during
system setting.

LEFT Press [**LEFT**] button to adjust monitor volume.
Use [**LEFT**] button to change **OSD** setting during
system setting.

DOWN Press [**DOWN**] button to navigate the menu for system setting.

UP Press [**UP**] button to navigate the menu for system setting.

POWER Press [**POWER**] button to turn on/off the monitor.
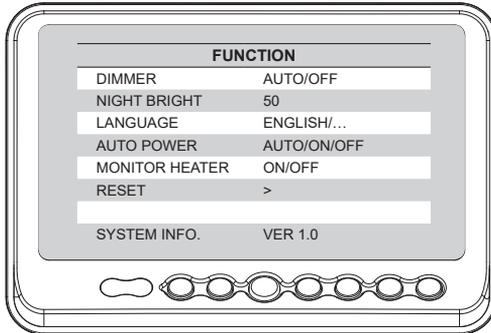
SELECT Press [**SELECT**] button to select the respective camera channel.
(CAM1-CAM2-CAM3-CAM1..)

MENU Press [**MENU**] button for system setting.

HEATER LAMP Orange color will be illuminated in case heater function is activated.

DAY/NIGHT SENSOR (CDS) Automatic brightness control sensor.

▣ SYSTEM SETTING

```
┌─────────────────────────────────────┐
│          FUNCTION                    │
│  DIMMER              AUTO/OFF        │
│  NIGHT BRIGHT        50              │
│  LANGUAGE            ENGLISH/…       │
│  AUTO POWER          AUTO/ON/OFF     │
│  MONITOR HEATER      ON/OFF          │
│  RESET               >               │
│                                      │
│  SYSTEM INFO.        VER 1.0         │
└─────────────────────────────────────┘
```

FUNCTION

DIMMER (Automatic Brightness Control)
Select **AUTO** or **OFF** to have Automatic or Manual brightness of the monitor.

> **REMARK**: By activating **DIMMER AUTO** function, the monitor adjusts the brightness according to the environment.

NIGHT BRIGHT
Select the **DIMMER** to 『**AUTO**』, set the value of backlight on **NIGHT** mode.

LANGUAGE
Provide 6 Multi-lingual OSD [ENGLISH, SWEDISH, DANISH, NORWEGIAN, DUTCH, FINNISH].
Select the preferred **LANGUAGE**.

AUTO POWER
Select monitor activation function as below.

    [AUTO] Monitor keeps the last setting in memory.
      [ON] Monitor starts up 『**Power-ON**』 mode automatically.
    [OFF] Monitor starts up 『**Stand-By**』 mode automatically.

MONITOR HEATER
Select **MONITOR HEATER** 『**ON**』 to have automatic heating function in order to enable fast picture start during extreme cold weather condition.

> **Remark**: **During MONITOR HEATER ON** mode,
> Heating activates automatically when the temperature of inside monitor is below 0 degree Celcius.
> When the temperature of inside monitor is over 0 degree Celcius, heating stops automatically.
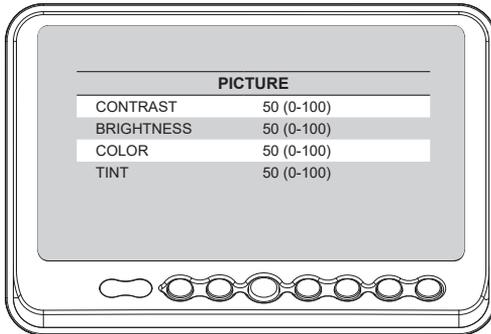
RESET
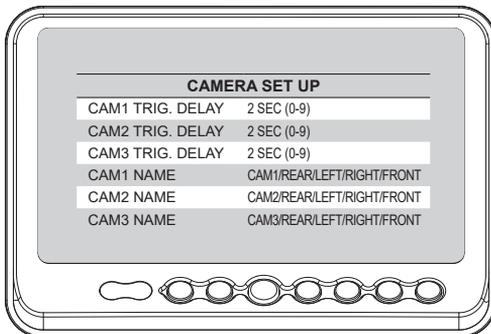Press ≫ button to go the factory default setting.

SYSTEM INFO.
Refers to system information of the monitor.

▣ SYSTEM SETTING

PICTURE	
CONTRAST	50 (0-100)
BRIGHTNESS	50 (0-100)
COLOR	50 (0-100)
TINT	50 (0-100)

PICTURE

Press [**LEFT/RIGHT**] button to adjust preferred **PICTURE** of the monitor.

CAMERA SET UP	
CAM1 TRIG. DELAY	2 SEC (0-9)
CAM2 TRIG. DELAY	2 SEC (0-9)
CAM3 TRIG. DELAY	2 SEC (0-9)
CAM1 NAME	CAM1/REAR/LEFT/RIGHT/FRONT
CAM2 NAME	CAM2/REAR/LEFT/RIGHT/FRONT
CAM3 NAME	CAM3/REAR/LEFT/RIGHT/FRONT

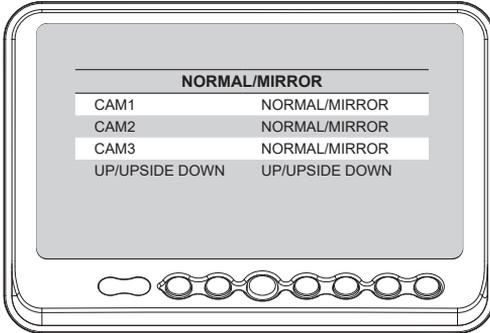## CAMERA SET UP

TRIG. DELAY
When a **TRIGGER** wire is connected to a pulse DC power signal (e.g. direction indicator lights) then the [**TRIGGER DELAY**] function avoids repeating **ON/OFF** of the monitor.

CAMERA NAME
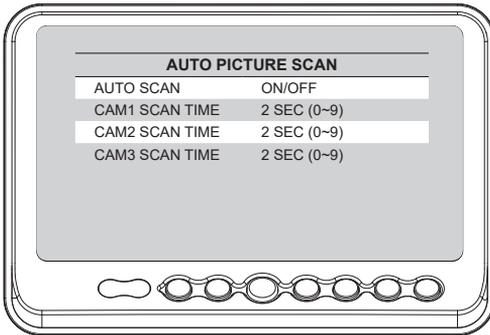**CAMERA NAME** can be selected as **CAM1, 2, 3/REAR/LEFT/RIGHT/FRONT**.

NORMAL/MIRROR

CAM1	NORMAL/MIRROR
CAM2	NORMAL/MIRROR
CAM3	NORMAL/MIRROR
UP/UPSIDE DOWN	UP/UPSIDE DOWN

NORMAL/MIRROR

NORMAL/MIRROR
Each camera picture (CAM1/CAM2/CAM3) can be switchable as **NORMAL/MIRROR** image.

UP/DOWN
Camera pictures can be switchable as **UP/DOWN** image.

AUTO PICTURE SCAN

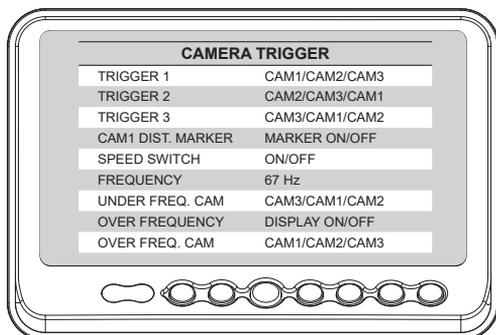| AUTO SCAN | ON/OFF |
CAM1 SCAN TIME	2 SEC (0~9)
CAM2 SCAN TIME	2 SEC (0~9)
CAM3 SCAN TIME	2 SEC (0~9)

AUTO PICTURE SCAN

Each scanning time of CAM1/CAM2/CAM3 can be selected.

REMARK: If the **SCAN TIME** is set as 『0』, monitor skips its channel during the scanning.

Press [**UP**] button for 4 seconds to **ACTIVATE/INACTIVATE** auto scanning function.

▣ SYSTEM SETTING

CAMERA TRIGGER	
TRIGGER 1	CAM1/CAM2/CAM3
TRIGGER 2	CAM2/CAM3/CAM1
TRIGGER 3	CAM3/CAM1/CAM2
CAM1 DIST. MARKER	MARKER ON/OFF
SPEED SWITCH	ON/OFF
FREQUENCY	67 Hz
UNDER FREQ. CAM	CAM3/CAM1/CAM2
OVER FREQUENCY	DISPLAY ON/OFF
OVER FREQ. CAM	CAM1/CAM2/CAM3

CAMERA TRIGGER

TRIGGER 1/2/3 (Trigger source selection)
Select the required trigger source at CAM1/CAM2/CAM3.

> **REMARK**
> TRIGGER PRIORITY: TRIGGER 1 > TRIGGER 2 > TRIGGER 3

CAM1 DIST. MARKER
Select **ON** to have distance marker (parking line) for **CAM1**.
Distance marker is displayed as soon as **TRIGGER 1** signal is activated.

SPEED SWITCH
The orange wire needs to be connected with the vehicle's tacho signal and via **MENU** the **SPEED SWITCH** needs to be selected **ON**.

At **FREQUENCY** 67Hz setting(and most common used tacho signal) the selected camera will be displayed during a speed of 0~33km/h. Select the concerning camera via 『**UNDER FREQUENCY CH**:』(At different type tacho signals the **FREQUENCY** needs to be adjusted into higher or lower value than this example)

Over 33km/h (72Hz) the selected camera will be switched **OFF** automatically. When the speed slows down, then the selected camera will be switched **ON** automatically again at 30km/h. Instead of automatic switch **OFF** at a speed over 33km/h it is also possible to activate another video source, such as a navigation picture from an optional navigation computer. In this case user needs to select 『**OVER FREQUENCY DISPLAY**: **ON**』and user needs to select 『**OVER FREQUENCY CH**:』
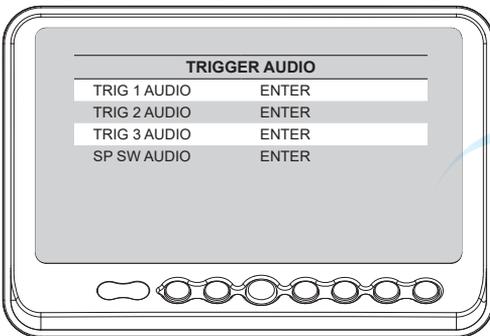
In case of **TRIGGER** activation during 『**SPEED SWITCH ON**』 mode, then **TRIGGERS** 1~ 3 will overrule 『**SPEED SWITCH**』 function.

AUDIO	
CAM 1 AUDIO	ON/OFF
CAM 2 AUDIO	ON/OFF
CAM 3 AUDIO	ON/OFF
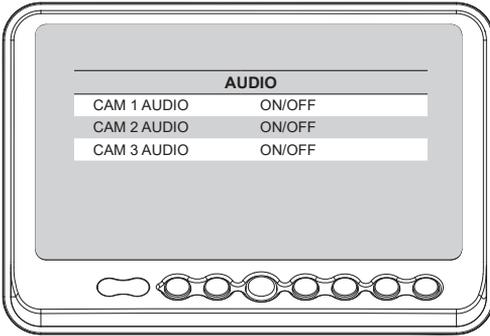
AUDIO

Audio **MUTE** Mode in normal mode.
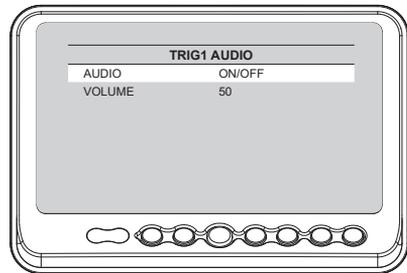
When the mode is [ON], audio will be on (activated)
When the mode is [OFF], audio will be off (mute).

TRIGGER AUDIO	
TRIG 1 AUDIO	ENTER
TRIG 2 AUDIO	ENTER
TRIG 3 AUDIO	ENTER
SP SW AUDIO	ENTER

TRIGGER AUDIO

Audio **MUTE** Mode in Trigger mode.

Choose the trigger and then push [ENTER].
The Audio setting menu will be shown as below.

TRIG1 AUDIO	
AUDIO	ON/OFF
VOLUME	50

When the mode is [ON], audio will be on (activated).
When the mode is [OFF], audio will be off (mute).
The user may adjust the volume.

▣ SYSTEM SETTING
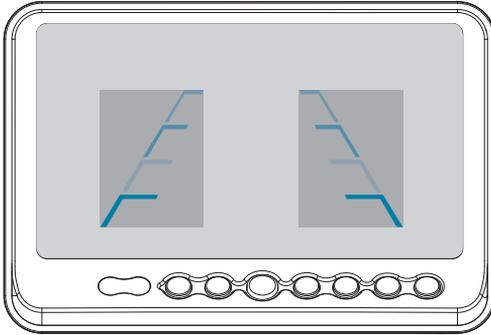
DISTANCE MARKER ADJUST

User can adjust location of distance marker.

At Power **ON** mode, select distance marker by pressing [**UP/DOWN**] buttons.
When color of distance markers is seen as **RED** color, user can adjust the lines **UP/DOWN** or **LEFT/RIGHT**.

When both color of distance markers are seen as **RED** color, both lines can be adjusted **LEFT/RIGHT**.
When left color of distance marker is seen as **RED** color, left line of distance marker can be adjusted **LEFT/RIGHT**.
When right color of distance marker is seen as **RED** color, right line of distance marker can be adjusted **LEFT/RIGHT**.
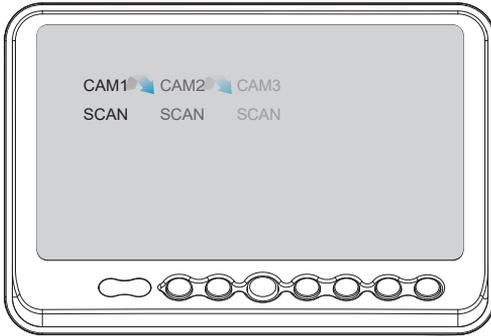
SCAN ON/OFF FUNCTION

At **Power-ON** mode, hold [**UP**] buttons pressed for 4 seconds to activate Auto Scan Picture function. During the auto scanning mode, press [**UP**] button for 4 seconds to inactivate Auto Scan Picture function.
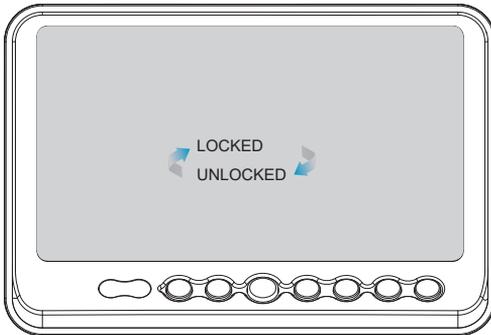
LOCK ON/OFF FUNCTION

LOCK ON/OFF FUNCTION
The set up menu can be locked as prevention against unauthorized users.

LOCK ON mode
At **Power-ON** mode, hold [**DOWN**] button pressed for 10 seconds to set up **LOCK ON** function.
When [**LOCKED**] is displayed on the screen, user can use [**POWER, SELECT, VOLUME**] buttons only and use can do setting for **PICTURE** menu.

LOCK OFF mode
At **Power-ON** mode, hold [**DOWN**] button pressed for 10 seconds to set up **LOCK OFF** function.
When [**UNLOCKED**] is displayed on the screen, user can use all functions of the set up menu.
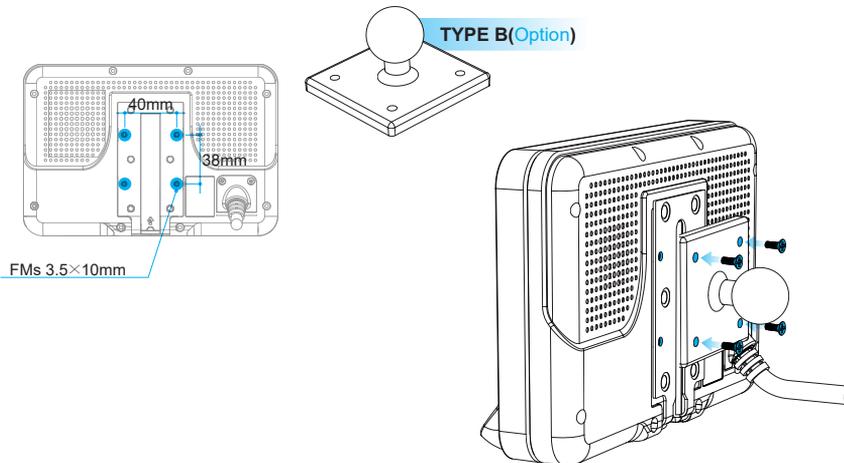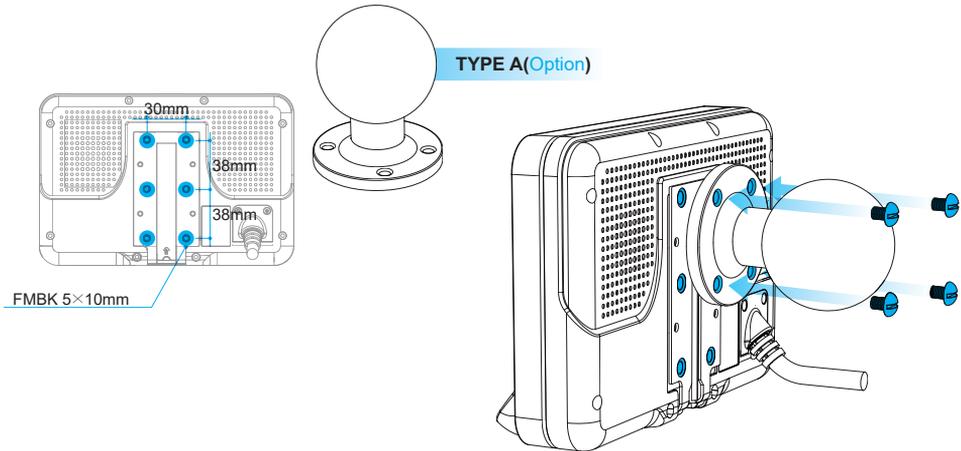
▣ INSTALLATION

MONITOR INSTALLATION WITH STAND BRACKET & SUNVISOR

A Remove a protection tape and attach **STAND BRACKET** into stand place, then fix it with the supplied screws.
B Connect **STAND BRACKET** with monitor and adjust height/angle.
C Connect **SUNVISOR** to the **MONITOR**.
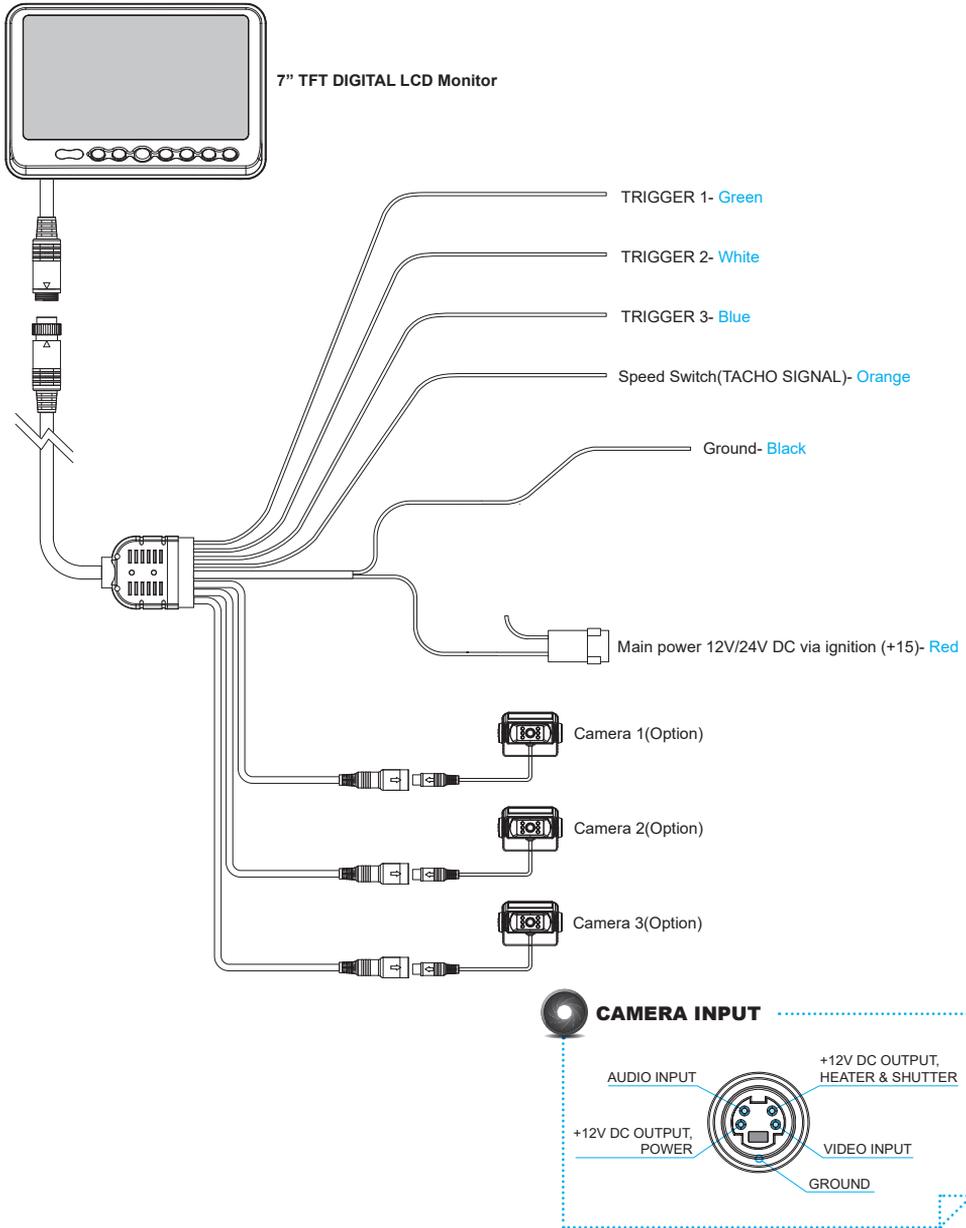**D** Connect **CAMERA INPUT CABLE** to the **MONITOR**.
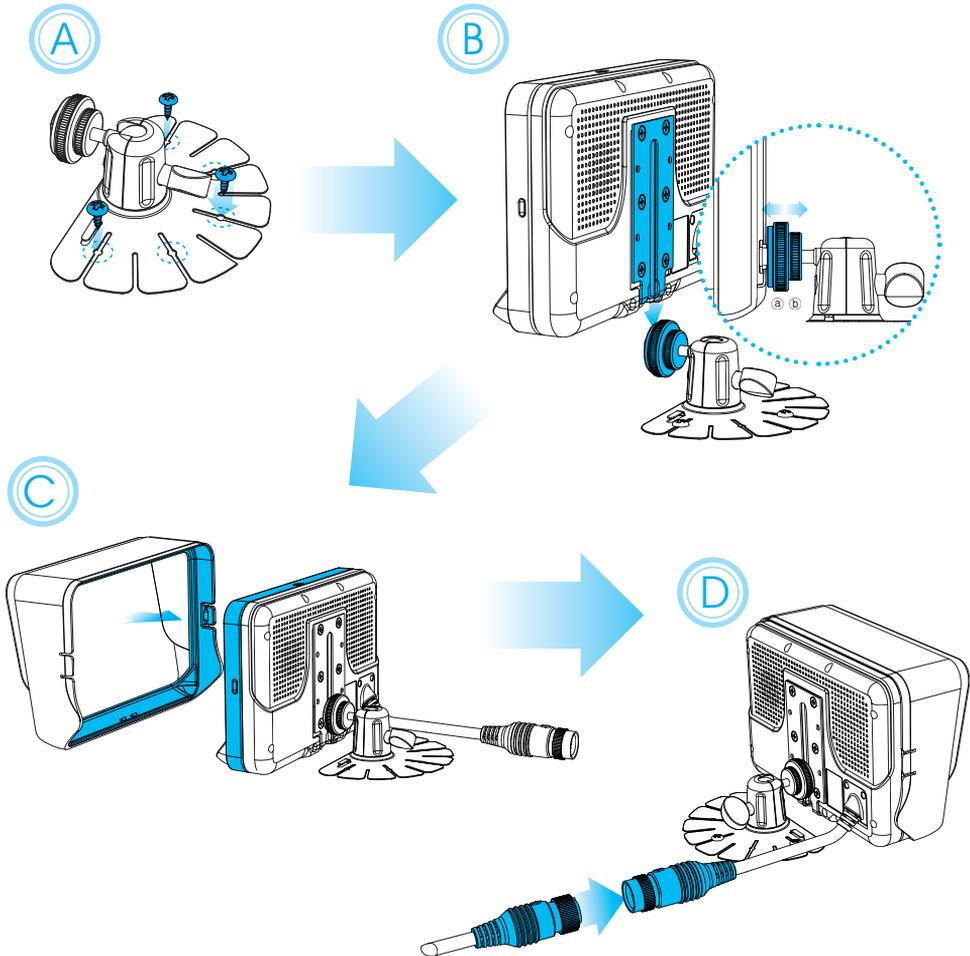
INSTALLATION OF HEAVY DUTY MOUNTING BRACKETS

MONITOR can be connected with different type of **HEAVY DUTY MOUNTING BRACKETS**.
Please check the compatibility in advance, then please follow installation as described below.

TYPE A(Option)

30mm

38mm

38mm

FMBK 5×10mm

TYPE B(Option)

40mm

38mm

FMs 3.5×10mm

▣ CONNECTION

7" TFT DIGITAL LCD Monitor

TRIGGER 1- Green

TRIGGER 2- White

TRIGGER 3- Blue

Speed Switch(TACHO SIGNAL)- Orange

Ground- Black

Main power 12V/24V DC via ignition (+15)- Red

Camera 1(Option)

Camera 2(Option)

Camera 3(Option)

CAMERA INPUT

AUDIO INPUT

+12V DC OUTPUT, HEATER & SHUTTER

+12V DC OUTPUT, POWER

VIDEO INPUT

GROUND

◨ SPECIFICATION

ITEM	SPECIFICATION
LCD SCREEN SIZE	7" Wide Diagonal
DIMENSIONS	193(W) ✕ 132(H)✕ 50.5(D)mm
DISPLAY DIMENSIONS	154.08 ✕ 85.92mm
POWER INPUT	DC 12 to 30 Free Input
POWER CONSUMPTION	12 Watt Max.
VIDEO SYSTEM	NTSC / PAL / SECAM Auto Detection
SYNC. SYSTEM	Internal
BRIGHTNESS	400 cd/m²
DISPLAY RESOLUTION	800 ✕ 480 pixel
VIEWING ANGLE	Top: 50. Bottom: 70. Left: 70. Right: 70.
COLOR CONFIGURATION	RGB Stripe
DIMMER	Automatic / Manual
SPEAKER IMPEDANCE	8Ω. 0.3 Watt Max.
OPERATING TEMP.	-25°C to + 75°C
STORAGE TEMP.	-30˚C to + 85˚C
IMPACT RATING	4G
CAMERA CONNECTOR	4-Pin mini DIN (MXN configuration)
HOUSING	Light Black(ABS)
ON-SCREEN DISPLAY CONTROL FUNCTIONS	Volume · Brightness · Color · Contrast · Tint · CAM Screen 1/2/3 · CAM Trigger 1/2/3 · Heater · Speedswitch · Auto Power · Distance marker · Auto Picture Scan · Dimmer · Language · Direction · Reset.
SUPPLIED ACCESSORY	Die-Case Mounting Bracket 1 pcs / Screw Kit 1 set / Operating Manual / Sun Shield 1 pcs / Power Cable 1 set
WEIGHT	±620g

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7" DIGITAL TFT LCD
ALL ROUND VISION MONITOR

Model: MXN-P7D

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