Amateur Radio Communication Antenna
14MHz High Performance Center Loading Mobile Antenna

HF20CL

Fold over whip element structure

Operation Instructions

To use the antenna properly, read these instructions thoroughly before using it. Keep this manual carefully at hand for later use.

HF20CL is for amateur use. Please transmit on the armature bands.

<<Warning>>

To avoid inviting accidents, please follow the following notices.

①Nuts and screws can be loosened by vibration during driving. Be sure to check those fastening devices from time to time and refasten if necessary.

②Strong impact can cause to break the antenna and may invite accidents by falling the element. It is recommended to drive away from those obstacles such as branches.

③Strong vibrations caused by diesel engines may damage the antenna. It is recommended to install the antenna at the location where has least vibrations as possible.

④Touching the antenna during transmission may cause to electrify. Be sure to confirm to see if there is no one around the antenna if transmission is taking place while the car is parked.

⑤Don't drive a car with the antenna tilted. Driving the car with the antenna tilted may cause serious human accident.

⑥To install the antenna,be sure to take those things such as local traffic regulations, and physical length of the car in account, and especially it has to be installed the location where is not easily reachable by people.

⑦Adjust the antenna thoroughly on operating frequency before operation. Using unadjusted antenna my cause to damage transceiver.

⑧If the thunder seems to rumbling the vicinity, do not touch the antenna and coaxial cable to avoid electrocuted by lightning.

⑨Select strong enough place to install the antenna to avoid damaging the car body falling the antenna.

·Description

①Center loading type that is high performance is employed in the HF20CL (length: 2.2m mobile antenna).

②It is easy to adjust the frequency by changing the upper element.

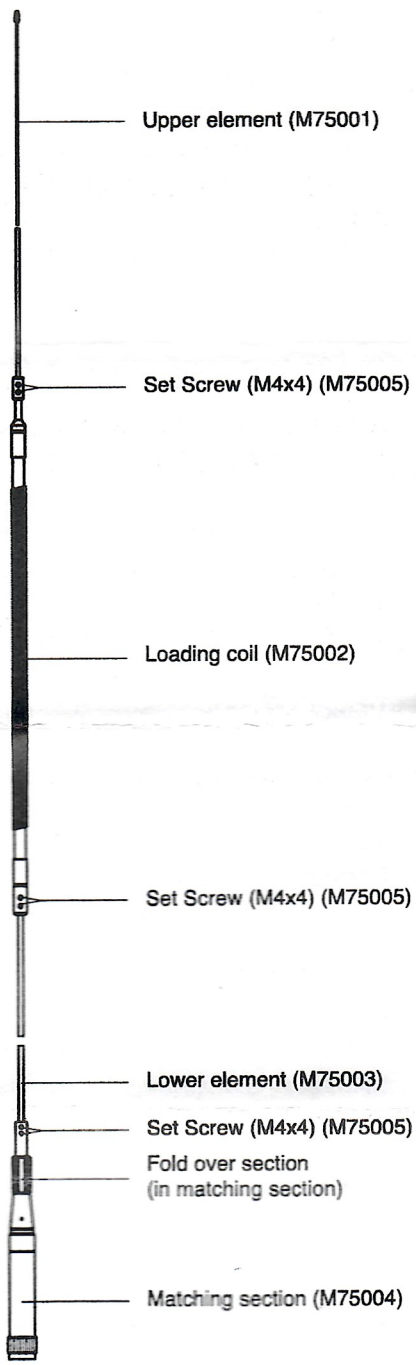
③Fold over whip element structure eliminates troublesome antenna detachment when the car is parked in your garage. Whip element section of the antenna can be tilted for desired direction by pull the element up and incline for any direction.

·Installation location

Since this antenna is designed to install on car body only, VSWR of the antenna may not be lowered when it is installed on the place where has different grounding condition such as on balcony railings.

·Parts number

The unit is consisted of the antenna following parts.



·Assembly and Adjustment

①Set the upper element in the upper part of the loading coil and fasten the set screw temporally.

②The element of HF20CL is adjusted to lower frequency of amateur band at initial condition. Please check the resonated frequency with SWR/power meter.

③Calculate the difference between the resonated frequency and the desired frequency after confirming the resonated frequency. Referring to the below frequency change amount, calculate the element adjustment length. If the frequency is lower than the desired one, cut the element. If the frequency is higher than the desired one, set the element at higher position.

Frequency change amount: Approx. 45 KHz/cm

<<Attention>>

- Do not touch the antenna during transmission to avoid electrocuting.
- Since VSWR of an HF antenna varies depending on installation locations, be sure to adjust at the place where the antenna is operated in practice.
- Adjustment has to be take place at the place where is no obstacles or power line, and where does not hinder other cars and pedestrians.
- Due to insufficient earth capacity correct adjustment can not be performed at the place where has vast space under the car such as on a bridge or in the multi-level parking lot.
- To avoid interfering other stations, adjustment has to be performed with least RF power and shortest time as possible.

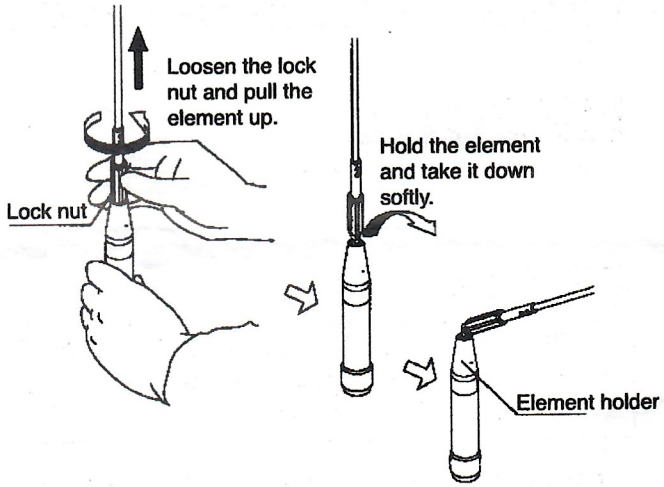
<<Warning>>

- Setscrew for the bracket must be connected to car body directly to have electrical interconnection. VSWR cannot be lowered if the bracket and car body are insulated.
- VSWR may not be lowered if installing the antenna at gutter mount or roof carrier where is away from car body.
- The place mounted with antenna bracket may get the rusty and make the rust-proof on it.
- Be careful not to have the waters into the car from the entrance of coaxial cable to the car.
- Wire the coaxial cable without any problem when driving.
- Don't install antenna, bracket and coaxial cable at the place where is close to other wire, terminal box of the car; otherwise, fatal accident should happen.

·Fold over whip element structure

①Loosen the lock nut and pull up when turned down.

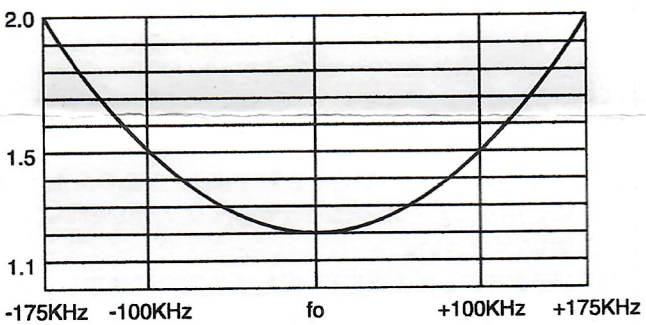
②When setting up, raise the antenna vertically, set the element into the element holder, and fasten with lock nut.



<<Attentions>>

- Don't drive with the antenna turned down; otherwise, fatal accident should happen.
- In case the antenna stretches out from the car body when turned down, detach the antenna otherwise, fatal accident should happen.
- When using the tiltable whip, pay attentions not to pinch your fingers.

·VSWR



·Specification

Frequency	14MHz (14.0-14.35MHz)
Max Power Rating	200W (SSB),70W (FM)
Impedance	50Ω
VSWR	Less than 1.5 (at resonated frequency)
Length	2.2m
Weight	560g
Connector	M-J
Type	1/4 wave center loading

■Though the product being purchased is manufactured under strict quality control, if damage is caused by transporting, ask your dealer promptly.

■Design and specification of these products will be changed for future improvement without advance notice.

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