STEERING WOBBLE

Since sidecar rigs aren't symmetrical, the sidecar wheel is angled slightly towards the front of the motorcycle. This angle, or "toe-in" of the sidecar wheel adds a modest force pushing towards the left to help counteract wind drag and prevent sideways oscillations sometimes called "steering wobble."

Wobble is the action of the front end darting left-right-left as the rig tries to center itself. Wobble typically occurs at speeds of 20 to 40 mph and is more of a nuisance than a danger on sidecar outfits. A properly adjusted >URAL combination will not exhibit any wobble under normal conditions. But, sudden speed changes or variations in road crown can sometimes precipitate momentary wobble.

Wobble can usually be controlled just by the driver holding the handlebars more firmly at speeds where the particular machine has shown a tendency to "wiggle it's nose". Tightening the steering damper may also help control wobble. But constant wobble is an indication that the sidecar toe-in is not correct or that the motorcycle steering head bearings need adjustment. If your >URAL wiggles its nose too much, perhaps the steering head bearings have become too loose or the sidecar is out of alignment.

If the outfit seems hard to steer in a straight line, it may be that the steering head bearings are too tight or the steering damper is screwed down too far. With too much steering resistance, the driver continuously over-corrects, with the result that the outfit wants to dart ("weave") from one side to the other as speed increases over about 40 mph. If your outfit seems to weave more as speed increases, try unscrewing the steering damper knob to release friction and then check that the front end easily pivots without resistance.

You should expect a bit of steering wobble once in a while as a normal slow-speed characteristic of sidecars, but continuous wobbles or weaves are an indication that it is time to get out the wrenches and do a little maintenance. The Owner’s Manual provides specifications for sidecar toe-in and leanout andexplains how to adjust the steering head bearings. If in doubt, take the motorcycle to an authorized >URAL dealer.

ANIMALS

Animals running into the road can be a problem, whether pets in residential areas or wild game in the country. While a sidecar outfit isn't likely to tip over as a result of running into a dog, a sidecarist could certainly get bit. Worse yet, a highway-speed collision with a deer or antelope could demolish the outfit and cause serious injury.

In residential areas, loose-running dogs are the primary animal hazard to watch for. Some communities do not adequately control animals and you may encounter several aggressive dogs within a few blocks. Most loose dogs seem to enjoy the game of chasing vehicles and have fun predicting the intercept point. But dogs are also territorial anda few aggressive dogs will attack if they assume the street is part of their "turf".

The tactic for avoiding tangles with friendly chasers is to slow down when you see a dog eyeing you from the yard, then accelerate as the dog sprints out for the chase. A well-tuned >URAL can easily outrun the average dog. But if an aggressive dog is waiting for you in "his" street, different tactics are needed. A dog shows aggression by lowering the nose, baring teeth, growling, pulling the ears back and lowering the tail. When you spot an aggressive dog, either consider an alternate route or be prepared to defend yourself. Don't bother to kick at an aggressive dog; he's probably quicker than you are. If the sidecar is empty, put the sidecar between the dog's teeth and your leg. Passengers, should keep their hands and arms inside the sidecar. Be prepared for an aggressive dog to attack your front tire. Even smart dogs don't seem to understand what happens when they run in front of a steel sidecar frame.

Out in the country, there are many different wild animals that you may encounter in your path, but the most common animal hazard is deer. Wild deer occur in a wide variety of habitat all over North America. In the spring and fall, deer migrate in scattered herds and migration routes may cross the highway. Deer Crossing signs indicate that a large number of deer strikes have already occurred in that area. The wise sidecar pilot slows down in marked deer zones and stays alert to deer approaching from the side.

In the summer months, deer graze on the tender mowed grass on the shoulder of the road, especially in the morning and evening hours. Deer grazing on the road shoulder may appear to pay the approaching sidecar no attention, but they will suddenly leap into action when you get closer. Expect deer to leap out onto the roadway in front of you at the last second andthen zigzag unpredictably in front of you.

The only reliable technique for avoiding deer strikes is to make a quick stop when you see a deer, whether migrating or munching. In deer country, that's reason to encourage tailgaters to pass you.

At night, animal eyes reflect light much like a glass reflector. The difference is that the glass reflector doesn't blink. If you see one of the reflector posts ahead winking at you, it is very likely a deer eye. Whether the animal connected to the winking eye is a deer, a porcupine or a skunk, you don't want to hit it. Hit the brakes instead.

PARKING

We've explained how to get the >URAL started, how to ride it andhow to manage the risks of riding in traffic and in the country. But you can't ride your >URAL all of the time--sooner or later you'll need to park it. Let's consider some common-sense parking techniques.

Whenever you are parking the outfit where you can't keep it in view, turn off the ignition and remove the key. If the outfit will be parked for a while, shut off the fuel to prevent the carburetors from overflowing. Park the outfit in either first or reverse to prevent it rolling away. When parking alongside a road, get the outfit completely out of the traffic lane, preferably several feet away from passing vehicles.

With the handy reverse gear, you don't have to worry about getting the outfit out of downhill sloping parking spaces when it's time to go. But set the parking brake whenever parked on slopes, whether downhill or uphill.

When you park the rig at restaurants, parks and other public places where people gather, be aware that many people have never seen a sidecar outfit up close. They may be tempted to wiggle it or even crawl onto it as if it were a toy. Neither children nor their parents are likely to be cautious about leaning up against a dirty tire or grasping a hot exhaust pipe. You will have to get used to the stares and questions and come up with your own clever answers. If nearby children are curious about the outfit, you can help prevent burns by explaining to them that they can "look but not touch" and mentioning to their parents that the motor is still hot.

Because a motorcycle can be attractive to both the curious and to thieves, motorcyclists often park their machines where they can be seen. If you are concerned about security while you are away from the rig, consider carrying a hardened chain or cable which can be used to padlock either motorcycle wheel to the sidecar frame. The fork lock is not a complete theft deterrent because it doesn't prevent the wheels from rolling. If you do use the >URAL fork lock, remember that it has a different key from the ignition.

Chapter 7

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Chapter 7

ALCOHOL AWARENESS

It should be obvious by now that driving a sidecar outfit requires knowledge, judgment, planning, advanced skills and quick reactions. We might even suggest that driving a sidecar rig is more demanding than driving an automobile and certainly has greater inherent risk. One very important part of keeping the risks under control is avoiding driving while under the influence of alcohol.

We know that a large percentage of motor vehicle accidents involve alcohol. Automobile drivers have gradually come to understand that alcohol often precipitates accidents and alcohol-related accidents are occurring less frequently with each passing year. But, for whatever reason, some motorcyclists continue to ride after drinking. Alcohol-involved motorcycle accidents are not decreasing at the same rate as other motor vehicle accidents. Experts have calculated that approximately half of motorcycle accidents involve alcohol.

More to the point, when alcohol is involved in an accident, the accident is very likely to produce a fatality. Approximately 1 out of 3 motorcycle fatalities involves a rider who was under the influence of alcohol.

From your sidecar driving exercises, you should now understand that there is often a fine line between being in control and crashing. For example, in a tight, off-camber downhill decreasing-radius turn, we may maintain control right at the limits of speed and balance. That demands our full attention and that's also part of what makes driving a sidecar rig so much fun.

What makes alcohol so dangerous is that alcohol degrades the mental and physical skills that we need to keep the rig under control. Alcohol degrades inhibitions, judgment, memory, vision, hearing, muscle control and reaction time. Just a couple drinks may be enough to reduce inhibitions to where a normally reserved sidecar driver will increase speed or attempt show-off maneuvers. Sober, you know that sliding an outfit sideways on a tractable surface can lead to an instant ground loop. After two or three beers, sliding sideways may seem like a do-able stunt. But the driver not only has reduced inhibitions, but also degraded judgment, riding skill and reaction time. At the critical moments, a sidecar pilot under the influence can easily slip over the line between staying in control and flipping the rig.

Because judgment is one of the first mental processes degraded by alcohol, a persons who have been drinking are not in a position to judge their own impairment. Even people who know they are legally intoxicated may still feel they are capable of driving a motor vehicle. It doesn't make any difference whether the alcohol is consumed as a can of beer, a glass of wine or a shot of whiskey or vodka. A 150-pound human body requires about 1 hour to burn off the alcohol from one drink. Coffee or fresh air won't speed up the process.

The only practical method for preventing alcohol-related accidents and fatalities is to separate drinking and driving. If you don't drink at all, that's great. Hopefully, you will have the skills to avoid the drunks on the road. If you do drink, it is important to avoid driving the outfit after drinking or to drink while out on a sidecar ride. And that's a decision that needs to be made while sober. If you know from experience that you are likely to hop on the hack and go for a spin after a few drinks, consider having a responsible person hold your

ignition keys for you.

If you intend to "keep on hacking", don't allow alcohol to cut your sidecar experiences short.

Chapter 8

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Chapter 8

STATE AND LOCAL REGULATIONS

Each state and local municipal area has laws that relate to motorcyclists and remember that sidecar outfits are normally regulated as motorcycles. We don't have the space to list all the separate laws, state-by-state. We suggest you take the time to determine the laws in your local area. Some state police offices provide small pamphlets outlining the laws relating to different vehicles.

Your state drivers licensing office should be able to explain the laws relating to motorcycles as well as motorcyclists. You may also wish to contact your country sheriff's office or police department to inquire about local laws that may be more restrictive than state laws.

LICENSING

You will need the appropriate state driver's license or license endorsement to drive the outfit on public roads. In most states, a motorcycle driver's license is an endorsement to an automobile license. Generally, you apply for a permit, take a written test and schedule a driving test on the outfit. If you already have a motorcycle endorsement, you are probably licensed to drive a sidecar rig too. You may be able to get a sidecar-specific endorsement or you may need to obtain a full motorcycle license even though you will be operating only the sidecar rig.

Many states subsidize rider education programs. The usual method of financing such programs is to collect a surcharge on motorcycle rider license fees.

Helmet laws also vary from state to state. You are required to abide by the laws of the state in which you are driving. Many states have mandatory helmet laws that apply to passengers in the sidecar as well as the driver. The helmet must be worn whenever the outfit is in motion on public roads.

Most helmet-law states require that the helmet be an approved motorcycle helmet. Generally, a DOT (Federal Department Of Transportation) certification is acceptable in all states. Helmet standards are usually indicated by a sticker or imprint on the outside of the helmet. Police do sometimes hassle a motorcyclist for helmet-law violations when the rider is uncooperative, but sidecarists are rarely bothered if the helmet appears to be in compliance.

Most states require both headlight and taillight to be turned on whenever the motorcycle is in motion, even during daylight hours. It is up to the operator to be sure the lights are on. Although the headlight and taillight on URALs automatically come on when the main switch is turned on, either light can burn out in the daytime without being obvious. You should make a habit of checking the required lights whenever starting the machine.

Most headlight-on states do not differentiate between low beam and high beam during daylight hours. In the event the low beam burns out, it may be possible to switch to high beam to comply with the law. If only one taillight is required, the light on the sidecar fender will fulfill the legal requirement even if the taillight on the motorcycle happens to burn out.

Other motorcycle equipment may be required. Most states require at least one rearview

mirror. Some states require a mirror on both sides of the handlebars. Fenders may be required over wheels and some states have minimum wheel coverage specified. Tires may require DOT or other certification to be street-legal. Knobby "dirt" tires may be suspect for use on paved streets. In general, your URAL dealer will set up the rig as needed to comply with local laws. You probably won't be hassled for equipment failures if you keep the rig equipped the same way it was delivered to you.

If you do travel to other states or foreign countries, be aware that equipment laws are probably different from your "home" area. However, your state driving license is accepted for operating elsewhere.

INSURANCE

Liability (third party) insurance is mandatory in many states. Even where liability insurance is not required, it is wise to carry it to protect yourself against liability should you run into someone. Insurance costs and coverage varies from company to company. Insurance companies may not offer motorcycle coverage or may discourage motorcycles by quoting high premiums. Some insurance companies will add a surcharge for the sidecar, even for liability coverage. Others will offer the same premiums as if the sidecar outfit were a two-wheeled motorcycle. Specialty motorcycle insurance companies usually offer 9-month premium costs if the rig is not operated during the winter months.

Some insurance companies that currently offer competitive rates for URAL sidecar motorcycles include Dairyland Motorcycle Insurance at 1-800-345-0335.

You may wish to obtain collision and comprehensive coverage for your outfit, to protect you against hit-and-run accidents, theft or fire. The American Motorcyclist Association offers discounted insurance for members. Telephone 1-800-398-7158. You do not have to be an AMA member to obtain insurance, but membership may provide a discount.

Chapter 9

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Chapter 9

SIDECAR RIGGING BASICS

"Rigging" refers to the connection and alignment of the sidecar to the motorcycle, plus whatever modifications to the motorcycle are needed for sidecar use. Most sidecars are purchased separately and must then be attached to a standard motorcycle. Attaching sidecars to standard motorcycles other than the URAL is a relatively complex process. Since the URAL comes with the sidecar already connected and aligned, URAL owners needn't be over concerned about rigging. But you should know enough about rigging to know when your URAL needs running gear adjustments. Your URAL dealer should be able to make the necessary readjustments. But you may wish to know more about alignment yourself.

The URAL sidecar is attached to the motorcycle at four points, two lower "ball and collet" connectors and two slanting upper legs ("struts"). A diagram in the Running Gear section of the Owners Manual shows the related parts. The lower collets clamp around ball fittings that are welded to the motorcycle frame. These collets should be kept snug enough to prevent play, but not so tight that the fittings are stressed.

Alignment should be checked if the outfit drags continuously to one side, if there is steering wobble at normal speeds or if tires begin to wear prematurely. Alignment includes toe-in, lean-out and sidecar elevation.

Toe-in is the slight angling of the sidecar wheel towards the front of the motorcycle. Toe-in is measured from a straight edge along the outside of the sidecar tire, to a straight edge along the outside of the motorcycle tires. The distance between the straight-edges at front and rear axle positions is measured. The difference between the rear measurement and the front measurement is the amount of toe-in. The measurement in line with the front axle should be 10mm shorter than the rear measurement (approximately 3/8 to 1/2 inch).

Taut string can be used as a "shade tree" method to check toe-in. It is important to position the front wheel exactly in line with the rear wheel if no straight edge is available. The string is held taut along the outside of the sidecar tire, about 4 inches off the ground. Toe-in measurements can then be made between the string and the inside edge of front and rear wheel rims. Toe-in measurements on the URAL assume tires of equal size and shape. If a knobby tire is mounted on the rear, measurements should be made to the wheel rims rather than to the edge of the tires.

Toe-in of the sidecar wheel is adjusted by loosening all attachments and then sliding the rear collet assembly in or out of the sidecar frame.

Leanout of the motorcycle away from the sidecar helps the outfit to steer straight at highway speeds. The motorcycle leaning out helps balance the air drag and rolling friction of the sidecar. Leanout is also affected by the crown of the road, wind direction, speed, load in the sidecar, tire diameters and toe-in. Leanout adjustments are made after toe-in is set.

Leanout is initially adjusted at approximately 1 degree from vertical with suspension compressed with normal load, but leanout must then be fine-tuned from steering feedback. If the outfit consistently drags towards the right at highway speed, leanout

should be increased. If the outfit steers too much towards the left, leanout should be decreased.

Leanout is adjusted by slightly loosening the lower collets, then loosening and adjusting the forked connectors on the legs.

The sidecar should also sit level in relation to the road surface. The adjustable lower rear collet bracket also controls height of the rear end of the sidecar frame. If the collet bracket slips, the rear of the sidecar could sag. When making toe-in adjustments, it is important to maintain the proper elevation of the sidecar frame. The rear frame member should be horizontal.

When making adjustments, small changes can have big results. Make minor changes one at a time and then check the results. After making alignment adjustments, it is important to snug up all connectors and locking nuts and then check measurements again after riding the outfit.

Should you ever undertake the mounting of a URAL sidecar to a motorcycle other than a URAL or decide to put together an entirely different motorcycle/sidecar combination, be aware that rigging a "new" outfit is usually a complex structural problem. In most states it is legal to attach sidecars to motorcycles without having the resulting three-wheeler inspected or relicensed, but the rig might also be ill-handling or unsafe. Most contemporary two-wheeled motorcycles are not designed to have sidecars attached to them. Before you begin any such projects, you are advised to seek the advice of knowledgeable sidecar rigging mechanics.

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UNITED SIDECAR ASSOCIATION

The United Sidecar Association (USCA) was formed in 1976 to serve as a coordinating body for local sidecar clubs and associations, which also acting in a national interest to support positive legislation for motorcyclist's right.

Through The Sidecarist, news journal of the USCA, information is made available by the USCA to its members, including local rallies and event and technical information. The Sidecarist is published 6 times yearly.

The USCA also supports and promotes safe sidecar driving skills throughout the Sidecar Safety Program. USCA - approved instructors pass on sidecar driving skills to motorcyclists, whether they are sidecarists or not, in a hands-on fashion.

A sidecar rig does handle differently than a solo motorcycle. The USCA recommends attending a SSP course to learn what those differences are.

The USCA also publishes manuals on sidecar operation and a sidecar catalog, which depicts current and non-current sidecars. Also available are paraphernalia such a coffee mugs, T-shirt and patches.

URAL size="4">America, Inc. recommends that all >URAL owners join the USCA. You can use the folling membership application.

USCA

Membership Application / Renewal / Emergency Contact Update

Date of Application:_Membership #_AMA #

Name_Phone #

Address

City, State_Zip

Occupation Spouse's name

Children's names

	Motorcycle #1	Sidecar #1	Motorcycle #2	Sidecar #2
Manufacturer				
Model				
Engine size (cc) or # of seats in sidecar				
Year of Manufacture				
Year Purchased				

Include additional information on a separate sheet

Other motorcycle club affiliations

Motorcycle interests: Touring o Rallies o Racing o Legislative o Other

Emergency and Friendship

Complete if you wish to be included in the Annual Directory

First name_Emergency Only_Friendship Only_Both

Please include any update information when you renew.

Annual dues based on 12 month membership:

US and Canadian Membership: New $25.00_Renewal $22.00

Overseas Membership: New $35.00_Renewal $32.00

Optional Donation to Sidecar Safety Training Program: $

Please make your check or money order in US currency only, please, payable to the USCA, Inc.

Please send to the USCA Membership Secretary, Al Roach, 130 South Michigan, Villa Park, IL 60181 USA or phone (708) 833-6732 for additional information.

First years dues include decal, patch and your subscription to The Sidecarist, the news journal of the USCA.

Please include Emergency Contact Information on this application and renewal form if there have been changes.

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KNOWLEDGE TEST

1. Motorcycle/sidecar outfits are driven just like a comparable two wheeled motorcycle.

a. true b. false

2. Because sidecar outfits are supported on three wheels, they can't tip over.

a. true b. false

3. The ultimate purpose of a motorcycle helmet is to:

a. protect the skull from fractures

b. protect the brain tissue from injury

c. prevent accidents

4. Which is the best eye protection?

a. regular glass sunglasses

b. a windshield on the motorcycle

c. a plastic faceshield on the helmet

5. When moving the motorcycle away from a stop sign you should:

a. release the clutch lever

b. ease out the clutch lever

c. keep the clutch lever squeezed

6. To start the URAL engine:

a. squeeze the clutch lever and kickstart

b. shift to neutral, release the clutch, kickstart

c. squeeze the clutch, shift to first gear, kickstart

7. Squeezing the lever on the left side of the handlebars:

a. temporarily interrupts engine thrust

b. applies the front wheel brake

c. stops the engine

8. The red light illuminated at the top left of the dash means:

a. no oil pressure

b. the brakes are on

c. at this engine speed the generator is not charging the battery

9. Stepping down on the right side foot pedal:

a. applies the rear brake

b. applies the rear brake and the sidecar brake

c. shifts the transmission into reverse

10. Brain tissue heals itself from injury just like any other part of the body.

a. true b. false

11. Before starting the engine, the red generator light illuminated means:

a. the main switch is on

b. the engine is low on oil

c. the transmission is in neutral

12. If you kick the engine over and it doesn't start, what should you do first?

a. check the main switch on and the kill switch to the run position

b. check that the reverse lever is in neutral

c. turn the fuel valve lever straight up

13. With all three wheels on the ground, a sidecar rig steers the same as a two-wheeled motorcycle.

a. true b. false

14. You shift from second gear to third gear by:

a. pressing down on the shift lever toe pad

b. pressing down on the shift lever heel pad

c. lifting up on the left footpeg with your toe

15. To bring the outfit to a complete stop:

a. squeeze the clutch, roll off the throttle, apply both brakes

b. shift down, roll off the throttle, turn off the kill switch

c. squeeze the clutch, turn off the kill switch

16. If you push down on the kick start lever and the outfit begins to move, it means:

a. you didn't squeeze the clutch

b. the transmission is in gear

c. the parking brake is set

17. To turn the outfit towards the left, you:

a. point the front wheel left

b. push on the left grip

c. pull on the right grip

18. A motorcycle tire has more traction when rolling than when sliding.

a. true b. false

19. If the rig yaws to the right when braking, it means:

a. the front brake is adjusted too tight

b. the sidecar brake is adjusted too tight

c. the rear brake is adjusted too tight

20. When braking in a right turn, the sidecar wheel tends to:

a. lift off the ground

b. press down harder on the ground

c. slide towards the left

21. When shifting up from first gear to second gear you should:

a. squeeze the clutch and roll off the throttle

b. squeeze the clutch and roll on the throttle

c. squeeze the clutch and "blip" the throttle

22. You lean your body to the right and simultaneously squeeze the front brake as you roll on some throttle. You would do this in:

a. a level left turn

b. a downhill left turn

c. a level right turn

23. Motorcyclists often have more than two seconds to react to hazards.

a. true b. false

24. What percentage of motorcycle accidents occur within five miles of home?

a. 10 percent

b. 50 percent

c. 90 percent

25. Which technique allows us to separate traffic hazards?

a. looking farther ahead

b. slowing down

c. both of the above

26. The most common motorcycle accident is:

a. car turns left into motorcycle

b. car pulls out of alley into motorcycle

c. car rear-ends motorcycle

27. You can prevent other drivers from running into you by:

a. wearing brightly colored riding gear

b. making sure your headlight is on

c. getting out of their way

28. You should stay out from behind trucks in traffic because:

a. the truck might stop quickly

b. other drivers can't see you

c. you don't have room to accelerate

29. When driving in traffic, the minimum acceptable following distance is:

a. 2 seconds

b. 2 bike lengths

c. 20 feet

30. Where should you look to learn whether on oncoming car is about to turn left in front of you?

a. maintain eye contact with the driver

b. look at the top of the left front tire

c. look at the turn signals

31. Alleys and driveways produce what percentage of fatal accidents?

a. 7 percent

b. 17 percent

c. 1 percent

32. The recommended tactic for avoiding deer strikes on country roads is:

a. swerve around the deer if it jumps

b. slow down quickly when you see a deer

c. flash your high beam and beep the horn

33. On a curving road, which line produces the greatest side forces for the same speed?

a. the largest radius of turn

b. the straightest line through the turn

c. following the center of your lane

34. On the freeway, you can reduce your risks by:

a. maintaining the speed of traffic

b. looking far ahead

c. scrutinizing traffic behind you

d. all of the above

35. On the "superslab", the left lane is:

a. no different than any other lane

b. a passing lane only

c. a lane for fast cruising

36. What percentage of motorcycle accidents occur on superslabs?

a. less than 10 percent

b. 25 percent

c. 50 percent

37. When driving an outfit uphill, front tire traction:

a. increases

b. decreases

c. stays constant

38. The front tire is most likely to slide sideways:

a. during a sharp uphill left turn

b. during a sharp downhill left turn

c. during hard straight-line braking

39. It is most important to stay on the front brake:

a. during a steep uphill right turn

b. during a steep uphill left turn

c. during a steep downhill right turn

40. With a speed increase from 30 mph to 40 mph, how much does the force of inertia increase?

a. inertia increases by 25 percent

b. inertia increases by 33 percent

c. inertia doubles

41. Which evasive maneuver is less likely to result in a flipover?

a. hard, straight-line braking

b. quick swerving

c. sliding sideways

42. Which brake is the most powerful?

a. sidecar brake

b. rear brake

c. front brake

43. Shifting body weight towards the inside (hanging off) in turns is mostly to:

a. keep the outfit from flipping over

b. keep the outfit from sliding sideways

c. help improve traction

44. The advanced technique for "drifting" through right-hand turns is to:

a. roll off the throttle, squeeze the front brake

b. roll on the throttle while squeezing the front brake

c. roll on the throttle while also pressing on rear brake.

45. When the sidecar wheel is "flying", you turn the rig more towards the left by:

a. pressing more on the left grip

b. pressing more on the right grip

c. pointing the front wheel more towards the left

46. With an empty sidecar, why should you hang off the inside in turns?

a. helps avoid a tipover

b. shifts center of gravity towards the outside

c. helps avoid a slideout

47. On a gravel road, the correct technique for a downhill right-hand turn is:

a. hang off right, roll on throttle, squeeze front brake

b. hang off right, roll off throttle

c. hang off right, roll on throttle

48. Approaching a steep hill on gravel, you should:

a. slow almost to a stop, then accelerate uphill

b. accelerate at the bottom, then slow as you go uphill

c. slow almost to a stop, then ride slowly uphill

49. When making a quick stop to avoid a deer in the road, you should:

a. apply both front and rear brakes to the maximum just short of a skid

b. apply the front brake only, as hard as possible

c. apply the rear brake only, as hard as possible

50. With a two-wheel-drive outfit, what happens when either rear wheel loses traction?

a. the other wheel loses power and rig slows down

b. the other wheel starts to slide

c. the other wheel starts to spin faster

Answers:

1. b 26. a

2. b 27. c

3. b 28. b

4. c 29. a

5. b 30. b

6. b 31. b

7. a 32. b

8. c 33. c

9. b 34. d

10. b 35. b

11. a 36. a

12. a 37. b

13. b 38. a

14. b 39. c

15. a 40. c

16. b 41. a

17. a 42. c

18. a 43. a

19. b 44. b

20. a 45. a

21. a 46. a

22. c 47. b

23. a 48. b

24. c 49. a

25. c 50. a

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ADDITIONAL INFORMATION

As you gain experience with your URAL outfit, you may meet other sidecarists and be introduced to a whole world of sidecar enthusiasts. You may be invited to special sidecar events such as rallies or campouts. Perhaps you are curious about different sidecar rigs others have put together or the history of sidecars. Where do you go for sidecar information?

SIDECAR PUBLICATIONS AND ASSOCIATIONS

There are two reliable sources of sidecar information in the United States, The United Side Car Association and Hack'd Magazine. Hack'd is an independent commercial publication with quarterly "newsletter" style issues stuffed full of technical and travel articles, advertisements, new products and announcements of sidecar events. The Editor/Publisher is Jim Dodson.

Hack'd Magazine, PO Box 813, Buckhannon, WV 26201; telephone (304) 472-6146

Motorcycle Consumer News is a newsletter-style commercial publication for motorcyclists, available by subscription only. For subscription information:

Motorcycle Consumer News Subscription Division, P. O. Box 420243, Palm Coast, FL 32142-9477; telephone (904) 445-4608

There are a number of local sidecar clubs in the US and Canada, but the United Side Car Association is the only comprehensive North American sidecar organization. The USCA is a volunteer association of sidecar enthusiasts, with a bi-monthly publication, The Sidecarist. The USCA holds a national rally and offers sidecar operator training at a limited number of sites. A membership application is located on page 92 of this manual.

For USCA sidecar operator training information, contact:

USCA Sidecar Safety Program, Ed Johnson, 703 First Street, Manhattan, IL, 60442-9115; telephone (815) 478-5609.

Because BMW motorcycles have historically been attached to sidecars, many BMW enthusiasts are also sidecar enthusiasts. The major BMW club in North America is BMW Motorcycle Owners of America. BMWMOA publishes a slick monthly color magazine and holds a national rally. For membership information contact:

BMW Motorcycle Owners of America, PO Box 489, Chesterfield, MO 63006-0489

The American Motorcyclist Association sanctions road and racing events, lobbies against anti-motorcycle legislation and offers member services such as uncrated motorcycle shipping, insurance and travel planning. For membership information contact:

American Motorcyclist Association, 13515 Yarmouth Dr, Pickerington, OH 43147; telephone (800) 262-5646 (AMA-JOIN); www.AMADirectlink.com

Motorcycle Rider Training for two-wheeled motorcyclists is available at independent training sites all across North America. Most states certify courses developed by the Motorcycle Safety Foundation. In the future, MSF training may also be available for sidecarists. To locate the nearest rider training site, telephone (800) 447-4700.

The MSF has also produced an excellent text, Motorcycling Excellence, that helps novice motorcyclists improve knowledge and traffic riding strategies. Although some of the information applies only to two-wheeled motorcyclists, much of the book also applies to sidecar operators. Motorcycling Excellence is available from Whitehorse Press, P. O. Box 60, North Conway, NH 03860-0060; telephone (800) 531-1133.

State Driving Handbook

Most states provide handbooks for anyone applying for a learner's permit. However, there are separate handbooks for motorcyclists and automobile drivers. The typical motorcycle handbook assumes two-wheeled operation. However, both books describe road signs and legal requirements for that state. You should study the appropriate handbook, recognizing that specific "motorcycle" questions on the written test may not be true for sidecarists.

URAL®
CLASSIC SIDECAR MOTORCYCLE

INSTRUCTION GUIDE

This manual can be used as a do-it-yourself course of instruction, but it is best used as a curriculum by certified instructors who can coach students through the exercises. This guide briefly explains how the instruction should be presented.

EXERCISE PRACTICE RANGE LAYOUT

The driving practice area or "range" for practicing the exercises should be a level area separated from traffic and free of obstructions. The surface should be level and reasonably smooth, but need not be paved. An even grass or gravel surface is adequate for all of the exercises.

The basic range layout is two 25-foot diameter circles set 125 feet apart, center-to-center. The two circles form either an oval or a "figure-8". The majority of exercises can successfully be practiced on this same layout. Having one main exercise layout saves time by precluding having to explain different layouts for successive exercises and saves instructor effort. Additional exercises such as straight-line braking or swerving are relatively easy to set up when needed.

The basic layout can be marked with cones, painted permanently on a hard surface or marked temporarily with chalk or lime on unpaved surfaces. Brightly-colored tennis balls cut in half make excellent "cones" to mark the path of travel.

BASIC INSTRUCTIONAL PLAN

The course of instruction includes both study and driving practice. Chapters 1, 2 and 3 are studied first, followed by driving exercises 1 through 11 to learn the basic sidecar driving skills. These novice exercises are conducted with weight in the sidecar. Chapter 4 exposes the novice to strategies and techniques for driving in traffic.

Chapter 5 introduces the novice to advanced driving skills, followed by exercises 12 through 21, which are conducted with an empty sidecar. The concluding Chapters 6 through 9 provide additional information about sidecar operation, alcohol awareness, regulations and a brief introduction to rigging.

A multiple-choice knowledge test is included. The test addresses only subjects covered in the lessons. The test can be used at the beginning of the course as a stimulus to learn or given at the end of the course after Chapter 6 to test knowledge gained.

As with instruction of two-wheeled motorcyclists, skills such as cornering are too complex to master in a single lesson or exercise. The lessons provide needed information to help practice the skills and some critical information is repeated in subsequent lessons and skill practice. Since the practice exercises build skills cumulatively, it is important that each exercise be mastered before proceeding to the next, even if the "student" is an experienced two-wheeled motorcyclist.

COURSE SCHEDULE

The total time needed to teach this course depends on entry level of students as well as number of participants. Due to the minority nature of sidecarists, it may seldom be possible to have more than two or three students in the same class. Assuming a small number of students, the entire course should take no longer than 16 hours. Although the lessons are intentionally made brief, class time can be reduced by students reading Chapters such as 4, 6, 7, 8 and 9 outside of class. Chapter 5 should be included in class time, to ensure that novices understand the advanced techniques before attempting to practice them on the range.

Given over a weekend, the introductary Chapters 1 through 3 can be presented on Saturday morning, followed by the Basic (novice level) skill practice. Chapters 4 and 5 can be studied outside of class on Saturday night, with Chapter 5 reviewed as the introduction to advanced skill practice. The course can be concluded by giving the knowledge test and handing out any additional information that is available.

It is recommended that the course be conducted as a continuous unit rather than being divided up over a period of days or weeks. The lessons should be followed immediately by practice exercises while the information is still fresh in the students' minds.

INSTRUCTOR QUALIFICATION

Currently, there are no standards or restrictions on sidecar instructors. The United SideCar Association does train and certify sidecar instructors to teach the USCA sidecar course, which is roughly the sidecar equivalent of the MSF Experienced RiderCourse. Ideally, the instructor intending to teach novice sidecarists will already be a certified motorcycle safety instructor as well as an experienced sidecarist. At some point in the future, the Motorcycle Safety Foundation may include sidecar instruction and therefore sidecar instructor certification.

Experienced sidecarists who are not certified instructors should understand that teaching novices requires instructional skills in addition to sidecar driving experience. You must have the patience to coach novices gradually through each exercise without becoming frustrated at slow progress and you must constantly evaluate each skill step to ensure that aggressive novices have mastered each skill progressively. If you have never coached motorcyclists through exercises, you might consider monitoring an existing rider training class.

EVALUATION AND EXERCISE COACHING

Even when you have only one or two students, it is important to maintain control of the exercises. Use as consistent staging area where the outfits are parked before and after each exercise. Explain each exercise and if necessary, demonstrate the exercise to show what you expect. Start the drivers and signal them what to do with hand signals and gestures. When a driver needs coaching, signal him or her aside and explain as concisely as possible how to practice the particular skill needed to master that exercise.

When introducing each exercise, describe the purpose of the skill, explain the path of travel and briefly review the technique. If needed, demonstrate the exercise yourself, taking care to do it exactly as you want them to do. Then review any coaching signals and start the exercise. It is important to spend time on driving the outfits, not on explanations that should have been covered in the preeceding lessons.

Demonstrations

For demonstrating exercises, you should encourage the drivers to walk closer to the action. Students will be watching your every move, even before and after the demonstration. Be sure to put on all of your recommended riding gear whenever driving

and follow the exact drills already practiced. For example, always use the cutoff switch in the recommended sequence and always squeeze the front brake lever when climbing aboard, even though the exercise is primarily about shifting.

Remember that you are demonstrating an exact skill, not showing off your cumulative sidecar proficiency. Drive exactly as you would expect the novice to drive, following the exact line of travel, turning your head to look through turns, covering the appropriate controls when required and driving at the (slow) speed suitable for the novice at that stage of learning.

Coaching

The words you use to coach students are important. Use the same words or phrases that were used in the preceeding leesons. For example, say "squeeze" the clutch, rather than pull, disengage, grab or other terms the novice has not yet learned. The recommended terms are those in the exercise descriptions.

Get involved with the student in mastering the exercise. Watch carefully what they are doing. Offer positive reinforcement when the student does it right. Clap your hands, smile, shout "Yes!" give a thumb up or similar obvious reinforcement as they pass you. Avoid negative comments such as "NO-NO-NO" or profanity. Your actions and demeanor must always demonstrate that the student is OK, even when the student has not yet mastered the skill.

The advanced exercises (12 and on) approach the limits of balance and traction. It is much more important that each advanced exercise be mastered in sequence. Should a student approach a limit where you are concerned a tipover might occur, stop the exercise and explain both the dynamics and the correct technique. It is particularly important to avoid sliding the Urals sideways on tractable pavement, particularly the two-wheel-drive Sportsman.

Failures

Some individuals simply do not possess the judgement or motor skills to master certain driving exercises, particularly the advanced techniques. Since the exercises build skill progressively, allowing a student to proceed to a subsequent exercise without mastering an earlier one is setting the stage for a subsequent accident. The novice probably does not appreciate that failure to complete a driving exercise means subsequent exercises are compromised. If you have only one or two students, you can decide to patiently coach the slow learner through each exercise for as long as it takes to get it right. But if you have a class of several new sidecarists, it is unfair to keep the others waiting while you deal with the slow student.

When a student is failing to complete any novice-level driving exercise, you may already have formed an opinion that the individual is not ready or worse yet, not capable of operating a sidecar rig on the public roads. It is better that you weather a momentary storm of anger over your decision, than weather the guilt of a subsequent sidecarist fatality. You could simply flunk them on the spot and send them home. Or you might suggest that they monitor the rest of the course without driving or suggest that they spend time studying the lessons and then reschedule at another class. You cannot prevent them from continuing to learn on their own by trial-and-error, but you can avoid being a conspirator to an accident.

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"DRIVING THE URAL SIDECAR MOTORCYCLE"